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UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

JOE KINDER and BRANDON MOSS, on behalf of themselves and all others similarly situated and the general public,

Plaintiff,

v.

DJI TECHNOLOGY, INC.; SZ DJI TECHNOLOGY CO., LTD.

Defendants.

Case No.

CLASS ACTION COMPLAINT

JURY TRIAL DEMANDED

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Attorneys for Plaintiff, JOE KINDER, BRANDON MOSS, and the Proposed Class

Plaintiffs, JOE KINDER ("KINDER") and BRANDON MOSS ("MOSS") (collectively referred to as "Plaintiffs") bring this action on behalf of themselves, and all others similarly situated against DJI TECHNOLOGY, INC.; SZ DJI TECHNOLOGY CO., LTD (hereinafter collectively referred to as "Defendants" or "DJI"). Plaintiff makes the following allegations based upon information and belief, except as to the allegations specifically pertaining to themselves, which are based on personal knowledge.

INTRODUCTION

1. The drone market is a big industry and an increasingly growing market. Drones were made available to the general public in 2016. The drone industry is becoming a compelling one, with global sales reaching $22.5 billion in 2020 and expected to grow substantially by 2025 to a whopping 42.8 billion.[1] "Unmanned aircraft systems" (colloquially and hereinafter referred to as "drones") are becoming increasingly ubiquitous for recreational use."[2]

2. Drones have a variety of uses including defense, emergency response, disaster relief, conversation, disease control, healthcare, agriculture, weather forecasting, maritime, waste management, energy, search & rescue, surveillance, security, science & research, surveying & GIS, operating unmanned cargo systems, investigation, and/or photography[3].

3. Drones were originally developed for the military and aerospace industries, but they have found their way into the mainstream because of the enhanced levels of safety and efficiency through sales to the public by private entities. Unmanned aerial vehicle (UAV) – also know as drones --operate without a pilot on board and with

[1] Drone Industry Insights. The Drone Market Report 2020-2025. Available online https://drone-market-report-2020-2025

[2] Reddit (July 30, 2018), reddit.com/r/drones [*https://perma.cc/M93S-C48U*] (online community devoted to recreational drone activities, including drone cinematography, first-person-view drone racing, and drone building).

[3] https://www.businessinsider.com/drone-technology-uses-applications; https://www.dummies.com/consumer electronics/drones/popular-uses-for-drones/

different levels of autonomy depending on the manufacturer/make/model. A drone's autonomous level can range from remotely piloted by a human to complete autonomy relying on a system of sensors and LIDAR detectors to calculate its movement.[4]

4. "Drone technology has been used by defense organizations and tech-savvy consumers for quite some time. However, the benefits of this technology extend well beyond just these sectors. With the rising accessibility of drones, many of the most dangerous and high-paying jobs within the commercial sector are ripe for displacement by drone technology. The use cases for safe, cost-effective solutions range from data collection to delivery. And as autonomy and collision-avoidance technologies improve, so too will drones' ability to perform increasingly complex tasks."[5]

5. Piloting drones occurs in one of two ways, which is either achieved through Line of Sight (LOS) by observing the drone with your eyes or through an onboard camera. Through the onboard system, the video image from an onboard camera in the drone is transmitted by radio to a personal video display onto goggles, mobile phone or tablet screen. By all accounts, this has become the preferred method for consumers to fly drones.[6]

6. In general, there are only a few features or specifications that drive consumers' decisions to purchase drones. They are: 1) distance/video transmission, 2) flight time (battery life), 3) weight, 4) camera, and 5) recording/editing features.[7]

7. DJI manufactures, distributes, promotes, markets, advertises, sells, and/or engages in transactions with consumers for a variety of drone products and is recognized globally as a leader in this space.[8]

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[4] https://builtin.com/drones

[5] https://www.cbinsights.com/research/drone-impact-society-uav/

[6] https://dronedj.com/2021/02/18/long-range-fpv-grows-in-popularity/; https://www.bhphotovideo.com/explora/video/features/what-is-an-fpv-drone; https://www.dronezon.com/learn-about-drones-quadcopters/what-is-fpv-flying-drone-equipment/ https://www.prnewswire.com/news-releases/global-racing-drone-market-to-reach-valuation-of-us786-mn-by-2027-increasing-popularity-of-commercial-racing-events-to-drive-growth-finds-tmr-301007400.html

[7] https://www.mydronelab.com/blog/what-is-a-drone.html

8. Consistent with DJI's self-promotion as the industry leader in the drone industry, its own website ("Website") set forth on https://www.dji.com states in prominent lettering: "Headquartered in Shenzhen, widely considered China's Silicon Valley, DJI benefits from direct access to the suppliers, raw materials, and young, creative talent pool necessary for sustained success. Drawing on these resources, we have grown from a single small office in 2006 to a global workforce. Our offices can now be found in the United States, Germany, the Netherlands, Japan, South Korea, Beijing, Shanghai, and Hong Kong. As a privately owned and operated company, DJI focuses on our own vision, supporting creative, commercial, and nonprofit applications of our technology. Today, DJI products are redefining industries. Professionals in filmmaking, agriculture, conservation, search and rescue, energy infrastructure, and more trust DJI to bring new perspectives to their work and help them accomplish feats safer, faster, and with greater efficiency than ever before.[9]"

9. DJI touts that its products are "[e]stablished to produce DJI's innovative products safely and responsibly, our wholly owned subsidiary Shenzhen Dajiang Baiwang Technology Co., Ltd. is a high-tech manufacturing facility specializing in unmanned aerial vehicles. In 2016, Dajiang Baiwang passed the ISO 9001:2015 Quality Management System Certification and in 2017 passed the SGS ISO 14001:2015 Environmental Management System Certification."

10. All drones sold by DJI, including in the United States, are contained within packaging that is uniform in nature - usually square or rectangle in shape, generally white in color, with black typed writing which set forth the specific set of representations relating to the specific features of the product.

11. DJI's representations and warranties relating to the Products (herein defined below) are prominently displayed on DJI's Website and/or on the back of the packaging

[8] https://www.globalbrandsmagazine.com/top-10-drone-companies-in-the-world-2020/; https://www.marketwatch.com/story/how-dji-has-crushed-the-consumer-drone-industry-and-the-rivals-that-could-still-take-flight-2017-02-17

[9] https://www.dji.com/company

of certain DJI Products. DJI also prominently displays the Products' features or specifications on DJI Website,on the packaging of the Products and through alternative advertising. DJI appreciates that prospective consumers purchase DJI Products based on the specifications, which are material terms to consumers and thus prominently display them for the consumer to see.

12. Located on DJI's Website,[10] the packaging of the Products, and other forms of advertising, DJI makes specific representations and warranties to consumers relating to the Products:

- weight
- flight time (battery life)
- distance/video transmission
- camera and/or
- recording/editing.

13. DJI also offers its customers the opportunity to purchase 'DJI Care Refresh' which "[i]s a comprehensive and reliable protection plan that offers accidental damage coverage for DJI products, allowing you to enjoy your DJI product with greater peace of mind wherever you go. DJI Care Refresh (1 - Year Plan) includes up to 2 replacements in 1 year. DJI Care Refresh (2 - Year Plan) includes up to 3 replacements in 2 years and extends the original warranty up to 2 years from the date of purchase."[11] Consumers are able to purchase DJI Care Refresh at the time of purchase. Both Plaintiffs KINDER and MOSS purchased DJI Care Refresh at the time of purchasing the DJI Mavic Air 2.

14. The DJI Products that are the subject of this lawsuit include but are not limited to:

- Mavic
- Mavic Pro
- Phantom
- Mavic Air

[10] Some DJI Products may have additional features.
[11] https://www.dji.com/service/djicare-refresh

- DJI Zoom
- DJI Mini
- Mavic Mini

(collectively, the "Products[12]")

A) Flight Time and Distance/Video Representations and Warranties

15. On information and belief, DJI makes specific representations and warranties related to the DJI Products. These representations and warranties are made in the form of product specifications related to the DJI Products, which are contained on either DJI's Website, the packaging of the Products or through other forms of advertising.

16. On DJI's website, DJI represents and warrants that the Mavic Air 2 has the following specifications which is used to advertise/promote the Mavic Air 2 to prospective consumers in order to drive sales:

- 48MP Photo /4K/60 fps
- 34-min Max. Flight Time
- 10 km 1080p Video Transmission
- Focus Track
- 8K Hyperlapse
- HDR Photo Video Panorama

17. Each of the stated representations and warranties related to each of the Products' is material in nature to consumers such as Plaintiff and Class Members (as defined below), who relied on the representations and warranties when purchasing DJI Products.

18. DJI touts each of the specifications for each of the Products either on the DJI's Website and/or on the packaging of the Products or through other forms of advertising in order to induce consumers to purchase the Products.

[12] Several of the DJI Products have more than one version or model.

19. DJI flight time and distance/video transmission representations are uniform for a particular model but vary depending upon the DJI Product model at issue. Consumers rely on DJI's flight time and distance/video transmission representations and warranties when selecting which specific model of the various DJI Products to purchase.

20. The flight time and distance/video transmission allows consumer to fly or operate the DJI Products for a certain amount of time (e.g. Mavic Air 2 is 34 min) at a certain distance (e.g. Mavic Air 2 is 10km) according to DJI's representations and warranties in connection with the Products. For the other DJI models, DJI makes a uniform flight time and distance/video transmission representations and warranties of the to that particular model for each of the Products.

21. Through its distance/video transmission representations and warranties, DJI claims the DJI Products can fly (or be operated) upwards of 2-6 miles. DJI touts the distance/video transmission representations and warranties to consumers knowing that consumers rely on these specifications when making their purchase decisions.

22. Consumers including Plaintiffs and Class Members purchase the DJI Products with the belief that consumers can operate DJI Products to the same specifications as those represented and warrantied through DJI's Website and/or Product packaging and/or advertising.

23. Consumers rely on DJI's flight time and distance/video transmission representations and warranties when purchasing the Products. Consumers purchase DJI Products with the intention of piloting the DJI Products at the stated flight time and distance/video transmission specifications as represented and warrantied on DJI's Website and/or the packaging of the Products and/or through other forms of advertising.

24. On information and belief, the DJI Products do not meet the DJI's specifications for its flight time and distance/video transmission for the corresponding model because:

a) The battery life for single charge will not support DJI's flight time representations and warranties;

b) The Products cannot travel for the stated distance/video transmission per the specifications; and

c) The images from the onboard camera being transmitted to the personal video display device are interrupted and/or fail within the range represented and warrantied by DJI.

25. DJI's representations and warranties relating to the Products' distance/video transmission specifications are false and misleading because the Products do not meet the specifications as represented and warrantied on DJI's Website and/or on the packaging of DJI's Products and/or through other forms of advertising.

26. For example, the specifications are set forth on page 1 on the Mavic Air 2 webpage at DJI's Website, are prominently displayed as set forth below:

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27. DJI touts the Products' flight time and distance/video transmission specifications to prospective consumers in order to drive sales of the Products. Consumers including Plaintiff and Class Members read, reviewed, and relied on these representations and warranties and purchased the DJI Products believing the Products will perform to DJI's representations and warranties stated on the DJI Website, packaging, or in other forms of advertising.

28. DJI knows that its prominently displayed flight time and distance/video transmission specifications, representations and warranties that consumers rely upon are false and/or misleading as evidenced by DJI's attempt to bury on the DJI website the virtually unattainable flight conditions that must be present to support the specifications for Consumers such as Plaintiff or Class Member to achieve the represented flight time and distance/video transmission that it prominently displays on its packaging in order to shield itself against its false and misleading representations and warranties.

29. DJI's Website contains language – not on page 1 but page 23 -- attempting to set flight conditions (for example, See Page 23, setting conditions for the Mavic Air 2 on the DJI Website). These necessary flight conditions are omitted from the prominently displayed packaging and advertising; however, DJI understands they are as necessary to achieve the flight time and distance/video transmission specifications and representations. These representations and warranties are the subject of this complaint e.g. (1) In order to achieve the flight time representations and warranties prominently displayed on packaging and advertising to the consumer for the Mavic Air 2 – the "Flight time representation requires the drone to be flown " at an angle of 9° at a speed of 5.1 m/s, free of wind" [located at Note 5 on page 23 of the Mavic Air 2 DJI Website] and (2) For distance/video transmission representations and warranties - "Unobstructed, free of interference, and when FCC complaint" located on Note 3 at page 23 of the Mavic Air 2 DJI Website.

30. DJI's attempt to shield itself from DJI's false and misleading flight time and distance/video transmission representations and warranties fails because:

(a) DJI intentionally confuses their consumers by concealing and making very difficult for consumers to obtain basic information that should be readily available to them to be able to make an informed decision when making a purchase. The identified necessary 1 flight conditions which DJI attempts to support its flight time and distance/video transmission representations and warranties do not appear on page 1 where the specifications and representations of the Mavic Air 2 are provided to the

consumer. The secreted but necessary flight conditions appear on page 23 of the Mavic Air 2 webpages rather than side by side with DJI's specifications touted by DJI to prospective consumers for the flight time and distance/video representations that appear on page 1 of the Mavic Air 2 webpage. DJI knows the significance of the secreted flight conditions found on page 23 because at page 15-16 of the Mavic Air 2 DJI Website, DJI "notes" the flight previously undisclosed critical flight conditions found on page 23. A true and correct copy of the Mavic Air 2 webpages (1-23 pp.) for the DJI Website are attached as "Exhibit A." DJI intentionally creates confusion by not providing the consumer with the information required from the outset in order to make an informed purchase. Instead, DJI creates a maze of confusion for the consumer. DJI provides the prospective consumer with no hyperlinks, links or other references that are highlighted for the consumer to become aware of DJI's alleged flight conditions for piloting to meet the specifications set forth on the DJI Website or packaging of the Products; and

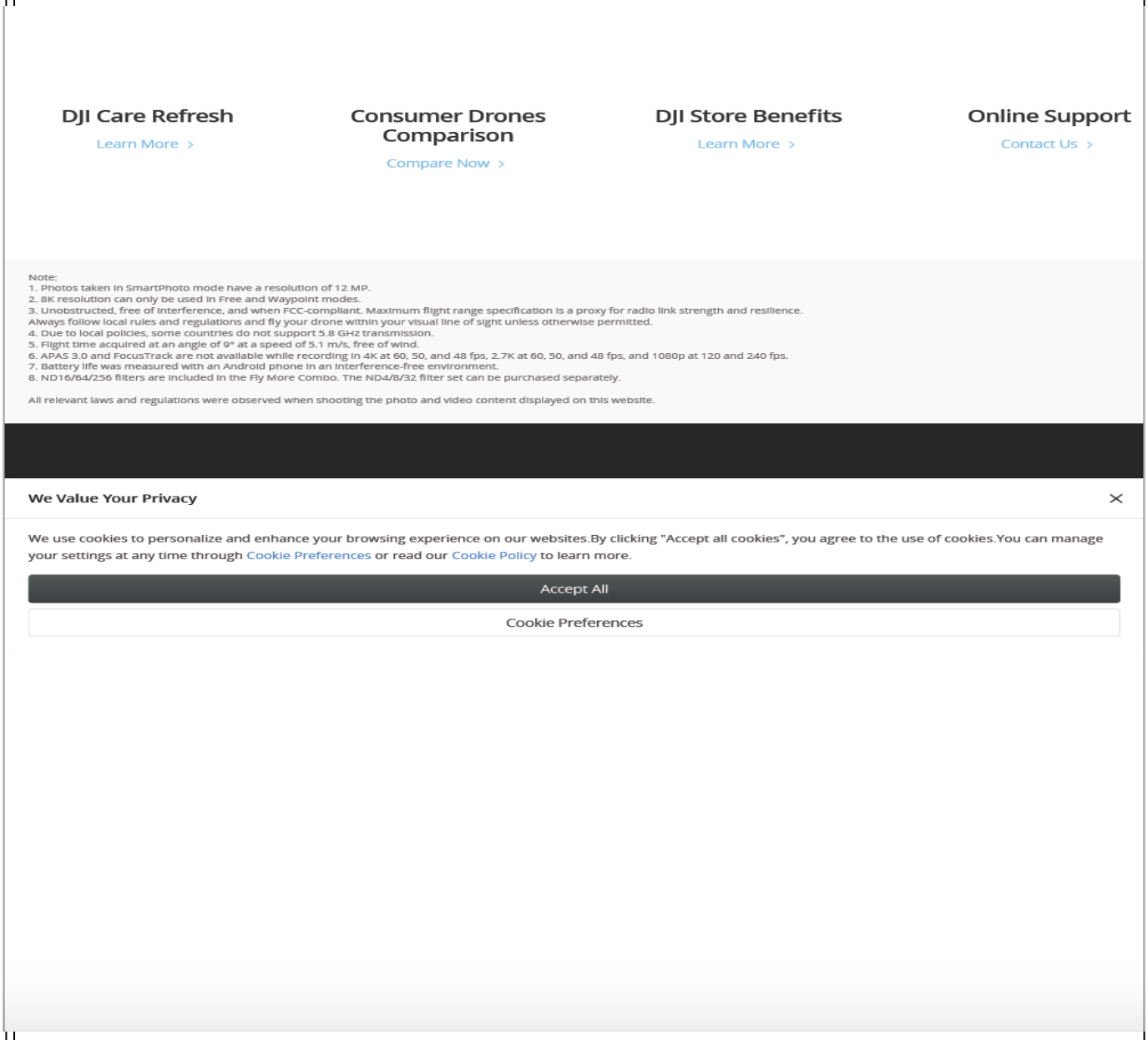
(2) DJI's uses vague and obscure language such as "Unobstructed, free of interference, and when FCC compliant,"[13] which does not inform the consumer or provide her/him with an understanding of the actual flight conditions necessary to pilot the DJI Products to the same specifications as those represented and warrantied by DJI.

31. The alleged conditions governing the flight time and distance/video transmission representations and warranties are contained on webpage 23 of DJI's Website (Mavic Air 2). The conditions are set forth in font size and style that is barely legible and readable to a prospective consumer.

32. There is no hyperlink, link, or any information directing the consumer to scroll from page 1 setting forth the flight time and distance/video transmission representations and warranties to page 15 (which also contains flight time specifications with specific flight conditions set forth in Note 5 located on page 23) OR page 16 (which containing distance/video transmission specifications which also references specific

[13] DJI uses the identical or substantially similar language to reference alleged flight conditions implemented by DJI to obtain the specifications set forth in the representations and warranties in connection with the DJI Products.

flight conditions set forth in Note 3 located on page 23) to page 23 on Mavic Air 2 webpages of the DJI's Website. Below is a screen shot of Page 23 of DJI's Website for the Mavic Air 2 setting forth the alleged flight conditions to achieve the specifications at issue is set forth below:



33. Irrespective of DJI's (concealed) flight conditions which are allegedly necessary to achieve DJI's stated representations and warranties set forth on page 23 for the Mavic Air 2 (for example), the DJI Products fail to meet the flight time and distance/video transmission specifications as set forth on DJI's Website, packaging, and

other advertising. The flight conditions do not and will not allow the pilot or the DJI Products to meet reach the capabilities as represented and warrantied by DJI in its flight time and distance/video transmission specifications. DJI inflates its flight time and distance/video transmission specifications to its consumers in order to drive sales of the Products. If the consumer is able to meet one of the specifications, one of the other specifications does not meet DJI's stated representations and warranties. For example, if a pilot flies the DJI Products at a certain distance, the pilot will encounter video transmission related issues. On information and belief, DJI has knowledge that DJI Products do not meet the flight time and distance/video transmission specifications as represented and warrantied by DJI. DJI sold the Products to consumers such as Plaintiffs and Class Members knowing that the Products do not meet the flight time and distance/video transmission representations and warranties.

B) Federal Law – Visual Line of Sight

34. On June 21, 2016, the final rule 14 CFR Part 107 was adopted by the Department of Transportation (DOT) and Federal Aviation Administration (FAA) that issued a press release to Finalize Rules for Small Unmanned Aircraft Systems. The press release was granted immediate release and was captured in the FAA News "Summary of Small Unmanned Aircraft Rule (Part 107)." A true and correct copy of the FAA press release is attached to this complaint as "Exhibit B."

35. On June 28, 2016, the FAA amended its regulations to allow for the operation of small unmanned aircraft systems (UAS) in the National Airspace System, to address changes to the operation of UAS and the certification of remote pilots.

36. 14 CFR 107.31[14], Visual Line of Sight Aircraft Operation, states as follows:

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[14] https://www.ecfr.gov/cgi-bin/text-idx?node=pt14.2.107&rgn=div5#se14.2.107_131 (Government Publishing Office)

§107.31 Visual line of sight aircraft operation.

(a) With vision that is unaided by any device other than corrective lenses, the remote pilot in command, the visual observer (if one is used), and the person manipulating the flight control of the small unmanned aircraft system must be able to see the unmanned aircraft throughout the entire flight in order to:

(1) Know the unmanned aircraft's location;

(2) Determine the unmanned aircraft's attitude, altitude, and direction of flight;

(3) Observe the airspace for other air traffic or hazards; and

(4) Determine that the unmanned aircraft does not endanger the life or property of another.

(b) Throughout the entire flight of the small unmanned aircraft, the ability described in paragraph (a) of this section must be exercised by either:

(1) The remote pilot in command and the person manipulating the flight controls of the small unmanned aircraft system; or

(2) A visual observer.

37. On October 6, 2020, the FAA issued a press release entitled "Fact Sheet - Small Unmanned Aircraft Systems (UAS) Regulations (Part 107)." Under operational requirements, the third bullet point states: "Keep your drone within sight. If you use First Person View or similar technology, you must have a visual observer always keep your drone within unaided sight (for example, no binoculars)." A true and correct copy of the FAA press release is attached to this complaint as "Exhibit C."

38. These VLOS requirements are particularly important to consumers because it limits the pilot or remote pilot, visual observer, and/or person managing the flight control to "vision unaided by any device." Instead of providing the consumer with the federal VLOS requirements in a manner that is easily visible, readable, and/or accessible (e.g. hyperlink) so the consumer can decide whether or not the specifications set forth on DJI's Website, packaging, or other advertising will not be maximized, DJI buries, hides, or conceal these limitation imposed by federal law which negatively impacts DJI's specifications.

39. The DJI Products, per the Products' specifications as set forth on DJI's Website, the Products' packaging, and other advertising, entice and prompt the consumer to purchase the Products based on the Product specifications. Consumers rely on the specifications and to be able to pilot the Products at the maximum capacity of the specifications. Pilots cannot attain maximum specifications of the Products for flight time and distance/video transmission without violating federal law.

40. DJI's distance/video transmission representations and warranties for the Products, which drives consumers such as Plaintiff and Class Members to purchase the Products violates federal law. In fact, the pilots operating the Products well within the DJI's distance/video transmission representations and warranties violate the federal law. DJI intentionally conceals the federal law VLOS requirements from its consumers who are viewing the flight time and distance/video transmission representations and warranties such as Plaintiff and Class Members during the purchasing process. For example, for the Mavic Air 2, the distance/video transmission that represented and warrantied is 10km at 1080p/30fsp, which is located on page 1 of the Mavic Air 2 webpage located on the DJI Website. There are no hyperlinks, links or other references that are highlighted for the consumer to become aware of the federal law VLOS requirements that tremendously impacts the consumer such as Plaintiff and Class Members ability to fly the Products as represented and warrantied. On page 15 of the Mavic Air 2 webpage on DJI's Website there is a footnote 3, which directs the prospective consumer to the Note 3 on page 23, which reads: "[A]lways follow local rules and regulations and fly your drone within your visual line of sight unless otherwise permitted."

41. Each time an individual decides to fly (or operate) one of the DJI Products outside of an individual's VLOS, you are required by law to obtain a waiver from the FAA. " A waiver is an official document issued by the FAA which approves certain operations of aircraft outside the limitations of a regulation. You may request to fly specific drone operations not allowed under part 107 by requesting an operational waiver. These waivers allow drone pilots to deviate from certain rules under part 107 by demonstrating they can still fly safely using alternative methods."[15] A true and correct copy of the FAA Part 107 Waiver Section Specific Evaluation Information. "Exhibit D."

42. Many pilots have requested waivers from the FAA. However, "[o]btaining one is extremely difficult – to say the least. As of Q1 2018, out of 1392 requested

[15] https://www.faa.gov/uas/commercial_operators/part_107_waivers/

BVLOS waivers, only 14 were approved – an approval rate of barely 1%."[16] The process for the FAA to review and make a decision by to grant or deny the waiver will take approximately 90 days (FAA states that it is commitment to do their best to meet the 90 day mark) from the time of submission to the FAA.[17] With the emerging drone market, the number of applications to the FAA for waivers has increased from 2018-2021. "The FAA has issued 4,893 waivers as of the end of 2020."[18] The total number of VLOS waivers granted in 2020 was 88, which is consistent with the percentage of VLOS waivers granted by the FAA in prior years for VLOS. *Id.* The FAA has provided the public with a list of the waivers that have been granted by the FAA[19] Even though the total number of waivers the FAA granted has increased from 2018-2021, the percentage of actual waivers remains in the low single digit percentages in relation to the number of applications.

43. In fact, there are specific requirements which must be met in order to be granted a waiver BVLOS (beyond the visual line of sight) by the FAA and requesting a waiver to merely fly BVLOS is not a reason to be granted a waiver by the FAA.

44. DJI is aware of the low single digit (percentage) application for waivers granted by the FAA. DJI has knowledge that a large percentage of DJI's customers would not legally be permitted to fly (or operate) the Products beyond the VLOS and therefore never legally be able to meet the specifications touted by DJI to Plaintiffs and Class Members. DJI should inform their consumers (without concealing the information) such as Plaintiff and Class Members that the specifications touted DJI on its Website, packaging or other forms of advertising cannot be met by the consumer without violating federal law. DJI consumer fails to provide the consumer with any information such as a hyperlink or other link to reference the limitations imposed by federal law – instead DJI

[16] https://www.thedroneu.com/blog/little-known-facts-about-part-107s-visual-line-of-sight-rule-that-you-might-not-be-of/
[17] https://www.faa.gov/uas/commercial_operators/part_107_waivers/
[18] https://www.thedronegirl.com/2021/01/19/certified-drone-pilots/
[19] https://www.faa.gov/uas/commercial_operators/part_107_waivers/waivers_issued/

creates a maze of information and conceals the information from the consumer in tiny font size (unreadable) on the last page of the Website.

45. DJI's market share is reported to represent upward of 70% of the drone consumer market worldwide and more than 50% of the consumer drone market in the United States.[20]

46. With the number of drones sold by DJI in the United States in relation to the single low digit percentage of waivers granted by the FAA, most of DJI's purchasers would not be granted waivers by the FAA. DJI consumers such as Plaintiff and Class Members will never legally be allowed to fly the drones for a greater distance than the VLOS which forces the consumer to only fly the drone within short distances despite DJI representations and warranties that the Products can be flown for several miles while using video transmission.

47. Consumers such as Plaintiff and Class Members should be put on clear notice prior to their purchase of the Products of the limitations imposed by federal law that will materially impact the representations and warranties made by DJI.

48. Consumers reading, reviewing, and purchasing the Products based on the Product's specifications are not informed that consumers cannot (federal law mandates pilots fly within the VLOS) operate DJI Products to meet the corresponding flight time and distance/video DJI Product specifications set forth on DJI's Website or packaging of the Products. Consumers cannot legally operate (federal law mandates pilots fly within the VLOS) the DJI Products in a manner consistent with DJI's representations and warranties.

49. For a consumer to pilot or operate a DJI drone to meet the represented and warrantied specifications set forth on DJI's Website, packaging, and other advertising would cause a consumer to violate federal law. DJI fails to notify the consumer clearly and conspicuously at the time of purchase that the consumer will not be able to pilot or

[20] https://dronedj.com/2021/09/14/droneanalyst-dji-market-share-2021/

operating the DJI Product at DJI's stated specifications without violating the federal VLOS law set forth in 14 C.F.R Part 107. DJI intentionally does not flag or clearly notify consumers such as Plaintiff and Class Members during the time of purchase of the VLOS requirements or VLOS Waiver set forth in Part 107.

50. It is only until after the consumer purchases the DJI drone that s/he is made aware for the first-time that the drone must be flown within the VLOS and/or the specifications set forth on the packaging or DJI's website are unobtainable. DJI does not inform consumers at the time of purchase that operating the drone in manner consistent with DJI's representations and warranties, would be engaging in conduct that is not legally permissible and that will result in a violation of federal law or that the consumer would not be able to pilot the drone to the specifications set forth on the packaging or DJI's website.

51. Despite intentionally concealing the federal law limitations, DJI Product still fail to meet the specifications as represented and warrantied. DJI's Products do not conform to the flight time and distance/video transmission representations and warranties because DJI's Product do not meet the lower end capabilities as represented and warrantied. While in flight at the lower end capabilities for distance, the video transmission is lost or interrupted or otherwise negatively impacted to prevent Plaintiff and Class Members from viewing the Products while in flight. The flight conditions DJI claims consumers must conform to in order to support the DJI flight time and distance/video transmission representations and warranties will not cause the Products to perform to DJI's stated specifications.

52. Plaintiffs purchased the Products at a substantial price premium based on DJI's representations and warranties relating to the Products flight time and distance/video transmission specifications. Plaintiffs would not have bought the Products had they known that DJI's representations and warranties were false, misleading, deceptive, and unfair.

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JURISDICTION AND VENUE

53. This Court has personal jurisdiction over Defendants. Defendant DJI TECHNOLOGY, INC. is a California corporation with its principal place of business located in California and SZ DJI TECHNOLOGY CO., LTD is a foreign corporation with its principal place of business located at Shenzhen, China, which purposefully avails themselves of the United States consumer market, and distributes the Products to locations within this District and thousands of retail locations throughout across the United States, including, in San Francisco California, where the Products are purchased by consumers on a weekly basis.

54. This Court has original subject-matter jurisdiction over this proposed class action pursuant to 28 U.S.C. § 1332(d), which, under the provisions of the Class Action Fairness Act ("CAFA"), explicitly provides for original jurisdiction of the federal courts in any class action in which at least 100 members are in the proposed Plaintiff class, any member of the Plaintiff class is a citizen of a State different from any defendant, and the matter in controversy exceeds the sum of $5,000,000.00, exclusive of interest and costs. Plaintiff alleges that the total claims of individual members of the proposed Class (as defined herein) are well in excess of $5,000,000.00 in the aggregate, exclusive of interest and costs.

55. Venue is proper in this District under 28 U.S.C. § 1391(a). The Parties agreed to submit to this venue and substantial acts in furtherance of the alleged improper conduct occurred within this District.

PARTIES

56. Plaintiff JOE KINDER ("KINDER) is a citizen of California and was a resident of San Diego, including when he purchased the Products within the last three years. On May 1, 2020, Plaintiff Kinder purchased a DJI Mavic Air 2 from the DJI Website for $799.00. Plaintiff BRANDON MOSS ("MOSS) is a citizen of California and was a resident of Sacramento, including when he purchased the Products within the last four years. On July 6, 2018, Plaintiff MOSS purchased a DJI Mavic Air 2 Bundle

from SSE Photo & Video through www.amazon.com for $1,089.00. Prior to purchasing the DJI Products, Plaintiffs saw and read the first page of the Mavic Air 2 Website, which set forth the specifications for flight time and distance/video transmission specifications and relied on the representations and warranties relating to the specifications, descriptions, statements, details, and features of the Products set forth on the DJI Website.

57. Plaintiffs KINDER and MOSS purchased DJI Care Refresh at the time of purchasing the DJI Products. DJI Care Refresh provides additional repair/replacement services offered by DJI for the drones purchased by its customers.

58. Defendant DJI TECHNOLOGY, INC. is a California corporation that has its principal place of business located at Burbank, California.

59. Defendant SZ DJI TECHNOLOGY CO., LTD is a foreign corporation that has its principal place of business located at Shenzhen, China.

60. The true names and capacities, whether individual, corporate, associate or otherwise of each of the Defendant designated herein as a DOE are unknown to Plaintiff at this time, who therefore, sue said Defendant by fictitious names, and will ask leave of this Court for permission to amend this Complaint to show their names and capacities when the same have been ascertained. Plaintiff is informed and believes and thereon alleges that each of the Defendants designated as a DOE is legally responsible in some manner for the events and happenings herein referred to, and caused injuries and damages thereby to Plaintiff as alleged herein.

61. Defendants manufacture, produce, market, distribute, sell, broker, and engage in and transact business in connection with the Products either on its own Website or throughout retail stores across the United States. Defendants knew that the representations and warranties relating to the Products' flight time and distance/video transmission representations and warranties is false and misleading to a reasonable consumer, because DJI's representations do not conform or is inconsistent with the Products' representations and warranties.

FACTS COMMON TO ALL CAUSES OF ACTION

62. Even sophisticated consumers should be able to trust the representations and warranties relating to the Products. Those transacting business with consumers are required to tell the truth, not conceal, and inform consumers of the true nature of the Products and their abilities for consumers to make an informed decision.

63. DJI's Website, product packaging, and other forms of advertising contain specific flight time and distance/video transmission representations and warranties. DJI makes specific representations regarding flight time and distance/video transmission while concealing vital federal law information i.e. VLOS from consumers such as Plaintiff and Class Members which impact the consumers ability to fly the Products according to DJI's specifications. Each of DJI's Products fail to meet the time and distance/video transmission representations and warranties as stated on DJI's Website, the Products' packaging, and other forms of advertising; thus the representations and warranties are false and misleading. A reasonable consumer understands Defendant's claims to mean that the Products will perform to meet and attain DJI's representations and warranties relating to the flight time and distance/video transmission specifications. Consumers such as Plaintiffs and Class Members have no reason to believe at the time of purchase that said flight time and distance/video transmission representation and warranties are false and misleading. DJI knows that their representations and warranties found on the DJI's Website, DJI's Products' packaging, and other forms of advertising.

64. Defendant's representations that the Products have a certain flight time and distance/video transmission is false and misleading, which induced consumers, including Plaintiff and Class Members, to pay a premium to purchase the Products. Plaintiff and Class Members relied on Defendant's false and misleading misrepresentations in purchasing the Products at a premium price above comparable alternatives. If not for Defendant's misrepresentations, Plaintiff and Class Members would not have been willing to purchase the Products at a premium price. Accordingly, they have suffered an injury as a result of Defendants' misrepresentations.

65. Based on the language that appears on DJI's Website, the Products' packaging, and other forms of advertising, Plaintiffs and Class Members reasonably believed that the Products conformed to the flight time and distance/video transmission representations.

66. A reasonable consumer would understand the flight time and distance/video transmission representations and warranties to mean that DJI's Products can be piloted for the specific time and distance as stated on DJI's Website and/or on the back of the packaging of DJI's Products or through DJI's other forms of advertising. DJI's representations and warranties are false and misleading to a reasonable consumer because (1) DJI conceals that federal law mandates consumers (pilots) operate drones within the VLOS, and (2) the Products do not meet the DJI's stated flight time and/or distance/video transmission representations and warranties as referenced on the DJI Website, packaging, or other advertising.

67. Defendants knew that consumers such as Plaintiff and Class Members would and did pay for the Products that would not conform to DJI's stated representations and warranties.

68. Plaintiffs did not discover that the representations and warranties were false and misleading until after purchasing the Products.

CLASS ALLEGATIONS

69. Plaintiffs KINDER and MOSS seeks to represent:

(A) All persons in the United States who purchased the Products on or after January 28, 2018 to the present date (the "National Class"). Excluded from the Class are Defendant, its affiliates, employees, officers and directors, persons or entities that purchased the Products for resale, and the Judge(s) assigned to this case.

(B) All persons in the California who purchased the Products on or after January 28, 2018 to the present date (the "California Class").

(The National Class and California Class, will be collectively referred to as the "Class")

70. Excluded from the Class are Defendant, its affiliates, employees, officers and directors, persons or entities that purchased the Products for resale, and the Judge(s) assigned to this case.

71. There is a well-defined community of interest in this litigation and the Class is easily ascertainable:

a. Numerosity: The Class Members are so numerous that joinder of all members would be unfeasible and impractical. The membership of the Class is unknown to Plaintiff at this time. However, the Class is estimated to be greater than fifty (50) individuals and the identity of such membership is readily ascertainable by inspection of Defendants' employment records.

b. Typicality: Plaintiffs is qualified to and will fairly and adequately protect the interests of each Class Member with whom they has a well-defined community of interest, and Plaintiffs' claims (or defenses, if any), are typical of all Class Members as demonstrated herein.

c. Adequacy: Plaintiffs are qualified to and will fairly and adequately protect the interests of each Class Member with whom they have a well-defined community of interest and typicality of claims, as alleged herein. Plaintiff acknowledges that he has an obligation to the Court to make known any relationship, conflict, or differences with any Class Member. Plaintiffs' attorneys and proposed Class counsel are well versed in the rules governing class action discovery, certification, and settlement. Plaintiffs have incurred, and, throughout the duration of this action, will continue to incur costs and attorneys' fees that have been, are, and will be necessarily expended for the prosecution of this action for the substantial benefit of each Class Member.

d. Superiority: The nature of this action makes the use of class action adjudication superior to other methods. Class action will achieve economies of time, effort, and expense as compared with separate lawsuits, and will avoid inconsistent outcomes because the same issues can be adjudicated in the same manner and at the same time for the entire class.

72. There is a well-defined community of interest in the questions of law and fact involved in this case. Questions of law and fact common to the members of the putative classes that predominate over questions that may affect individual class members (the members of the National and California Class will hereinafter be referred to as "Class Members" or the "Class") include, but are not limited to the following:

a. whether DJI misrepresented material facts to the Class concerning the representations and warranties contained on the Products;

b. whether DJI concealed or failed to disclose material information from the Class regarding the Products;

c. whether DJI's conduct is/was unfair and/or deceptive;

d. whether DJI has been unjustly enriched as a result of the unlawful, fraudulent, and unfair conduct alleged in this complaint such that it would be inequitable for DJI to retain the benefits conferred upon them by Plaintiff and the classes;

e. whether DJI breached express warranties to Plaintiff and the classes;

f. whether DJI failed to disclose Products;

g. whether DJI flight time and distance/video transmission representations and warranties re: Products are false or misleading;

h. whether DJI violated California Legal Remedies Act, California Business and Professions Code, and California False Advertising Law,

i. whether the representations and warranties violated any express or implied warranties;

j. whether Plaintiff and the Class Members have sustained damages with respect to the common-law claims asserted, and if so, the proper measure of their damages.

k. whether the Class is entitled to restitution, rescission, damages, and attorneys' fees and costs.

73. Plaintiffs seek to certify the National Class and California Class pursuant to FRCP 23(b)(2) and FRCP 23(b)(3).

74. Plaintiffs' claims are typical of Class Members because Plaintiffs, like all Class Members, purchased Defendant's Products bearing the representations and warranties and Plaintiffs sustained damages from Defendants' wrongful conduct.

75. Plaintiffs will fairly and adequately protect the interests of the classes and have retained counsel that is experienced in litigating complex class actions. Plaintiffs have no interest which conflict with those of the classes.

76. A class action is superior to other available methods for the fair and efficient adjudication of this controversy.

77. The prerequisites to maintaining a class action for equitable relief are met as Defendants have acted or refused to act on grounds generally applicable to the Class, thereby making appropriate equitable relief with respect to the Class as a whole.

78. The prosecution of separate actions by Class Members would create a risk of establishing inconsistent rulings and/or incompatible standards of conduct for DJI. For example, one court might enjoin Defendant from performing the challenged acts, whereas another might not. Additionally, individual actions could be dispositive of the

interests of the Class even where certain Class members are not parties to such actions.

FIRST CAUSE OF ACTION
Violation Of California's Consumers Legal Remedies Act ("CLRA"), California Civil Code §§ 1750, *et seq.*
(On Behalf of Plaintiff KINDER and All California Class Members against Defendants)

(Damages and Injunctive Relief Only)

79. Plaintiff KINDER brings this claim individually and on behalf of the members of the proposed California Class against DJI.

80. This cause of action is brought pursuant to the Consumers Legal Remedies Act, California Civil Code §§1750, et seq. (the "CLRA").

81. Plaintiff KINDER and each California Class Member are "consumers" within the meaning of Civil Code §l76l(d).

82. DJI's sales of Products to Plaintiff KINDER and the Class Members are deemed "transactions" within the meaning of Civil Code § 1761(e). The Products purchased by Plaintiff and the Class Members are "goods" within the meaning of Civil Code § l76l(a). DJI has engaged in unfair methods of competition and unfair and/or deceptive acts or practices against Plaintiff KINDER and Class Members, in violation of the CLRA by (a)(2) Misrepresenting the source, sponsorship, approval, or certification of goods or services; (5) Representing that goods or services have sponsorship, approval, characteristics, ingredients, uses, benefits, or quantities that they do not have or that a person has a sponsorship, approval, status, affiliation, or connection that the person does not have; (7) Representing that goods or services are of a particular standard, quality, or grade, or that goods are of a particular style or model, if they are of another; and (9) advertising goods or services with intent not to sell them as advertised.

83. As a result of these acts and practices, Plaintiff KINDER and the Class Members were damaged in that DJI's unlawful and misleading acts and practices alleged herein played a substantial and material role in Plaintiff KINDER and the Class

Members' decision to purchase the Products. Absent these acts and practices, Plaintiff KINDER and the Class Members would not have purchased the DJI Products that they did from DJI.

84. Pursuant to California Civil Code § 1780(a)(2), Plaintiff KINDER and Class Members request that this Court enjoin DJI from continuing to engage in the unlawful and deceptive methods, acts and practices alleged above. Unless DJI is permanently enjoined from continuing to engage in such violations of the CLRA, future consumers will be damaged by its acts and practices in the same way as Plaintiff KINDER and Class Members. Plaintiff KINDER also requests that this Court order a backward-reaching injunction in order to remedy the past effects of the unfair conduct alleged herein.

85. Pursuant to Section 1782(a) of the CLRA, on October 8, 2021 and October 14, 2021, and January 28, 2022, Mr. Kinder served Defendants by United States certified mail, return receipt requested, with notice of Defendants violations of the CLRA.

86. Plaintiff KINDER seeks damages, injunctive relief, attorneys' fees and costs, and any other relief the Court deems proper.

SECOND CAUSE OF ACTION
Violation Of California's Unfair Competition Law ("UCL"), California Business & Professions Code §§ 17200, *et seq.* (On Behalf of Plaintiffs KINDER and MOSS and All California Class Members against Defendants)

87. Plaintiffs KINDER AND MOSS repeat and re-allege each and every allegation contained in the foregoing paragraphs as if fully set forth herein.

88. Plaintiffs KINDER AND MOSS bring this claim individually and on behalf of the members of the proposed California Class against DJI.

89. DJI is subject to California's Unfair Competition Law, Cal. Bus. & Prof. Code §§ 17200, *et seq*. The UCL provides, in pertinent part: "Unfair competition shall

mean and include unlawful, unfair or fraudulent business practices and unfair, deceptive, untrue or misleading advertising ….”

90. DJI violated the “unlawful” prong of the UCL by violating the CLRA and the FAL, as alleged herein.

91. DJI’s misrepresentations and other conduct, described herein, violated the “unfair” prong of the UCL in that their conduct is substantially injurious to consumers, offends public policy, and is immoral, unethical, oppressive, and unscrupulous, as the gravity of the conduct outweighs any alleged benefits.

92. DJI violated the “fraudulent” prong of the UCL by misrepresenting the consumer’s ability to operate the DJI Products at the stated flight time and distance/video transmission and DJI falsely representing the Products’ flight time and distance/video transmission.

93. Plaintiffs and the California Class lost money or property as a result of DJI’s UCL violations because: (a) they would not have purchased the DJI Products on the same terms if they knew that the Products did not conform to DJI’s stated representations and warranties (b) they paid a substantial price premium compared to other products due to Defendant’s misrepresentations; and (c) the Products do not have the characteristics, uses, or benefits as promised.

THIRD CAUSE OF ACTION
Violation Of California’s False Advertising Law (“FAL”), California Business & Professions Code §§ 17500, *et seq.* (On Behalf of Plaintiff KINDER and All California Class Members against Defendants)

94. Plaintiff KINDER repeats and re-alleges each and every allegation contained in the foregoing paragraphs as if fully set forth herein.

95. Plaintiff KINDER brings this claim individually and on behalf of the members of the proposed California Class against Defendants.

96. California's False Advertising Law, Cal. Bus. & Prof. Code §§ 17500, *et seq.*, makes it "unlawful for any person to make or disseminate or cause to be made or disseminated before the public in this state, ... in any advertising device ... or in any other manner or means whatever, including over the Internet, any statement, concerning ... personal property or services, professional or otherwise, or performance or disposition thereof, which is untrue or misleading and which is known, or which by the exercise of reasonable care should be known, to be untrue or misleading."

97. DJI's committed acts of false advertising, as defined by §§17500, *et seq.*, by misrepresenting the stated flight time and distance/video transmission representations and warranties.

98. DJI knew or should have known through the exercise of reasonable care that their representations about the Products were untrue and misleading. DJI's actions in violation of §§ 17500, *et seq*. were false and misleading such that the general public is and was likely to be deceived. Plaintiff and the California Class lost money or property as a result of DJI's FAL violations because: (a) they would not have purchased the Products on the same terms if they had known the Products did not conform to DJI's stated representations and warranties; (b) they paid a substantial price premium compared to other similar products due to DJI's misrepresentations; and (c) the Products do not have the characteristics, uses, or benefits as promised.

FOURTH CAUSE OF ACTION
For Breach of Express Warranty
Violations of Cal. Com. Code § 2313(1)
(On Behalf of Plaintiff KINDER and All California Class Members against Defendants)

99. Plaintiff KINDER repeats and re-alleges each and every allegation contained in the foregoing paragraphs as if fully set forth herein.

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100. DJI as the designer, manufacturer, marketer, distributor, and/or seller, expressly warranted that DJI Products have certain specifications that can be met by consumers.

101. DJI's express warranties, and its affirmations of fact and promises made to Plaintiff and the Class regarding the price of the Products, became part of the basis of the bargain between DJI and Plaintiff and Class Members, thereby creating an express warranty that the price of the Products would conform to those affirmations of fact, representations, promises, and descriptions.

102. The specifications of the Products do not conform to the express warranty because DJI charged Plaintiff KINDER and similarly situated Class Members for features or specifications that cannot be met or that DJI does not meet.

103. As a direct and proximate cause of DJI's breach of express warranty, Plaintiff and Class Members have been injured and harmed because: (a) they would not have purchased the Products on the same terms if they had known the truth; (b) they paid a substantial price premium based on Defendants' express warranties; and (c) the price of the Products do not have the characteristics, uses, or benefits as promised.

104. On October 8, 2021, October 14, 2021, and January 28, 2022, Plaintiff KINDER mailed letters to Defendants consistent with Cal. Com. Code § 2607(3)(a) and U.C.C. 2-607(3)(A). The letters were sent on behalf of Plaintiff and all other persons similarly situated.

FIFTH CAUSE OF ACTION
For Fraud
(On Behalf of Plaintiff KINDER and All National Class Members against Defendants)

105. Plaintiff KINDER repeats and re-alleges each and every allegation contained in the foregoing paragraphs as if fully set forth herein.

106. As discussed above, DJI provided Plaintiff KINDER and Class Members with false or misleading material information in connection with the representations and

warranties re: specifications or features of the Products and/or DJI concealed and/or failed to disclose material facts to Plaintiff KINDER which impacted their ability to fly the DJI Products to the specifications as represented and warrantied in DJI's advertising.

107. DJI misrepresented the nature and content of the Products by making the false claims and/or concealing and/or failing to disclose material information.

108. The DJI's misrepresentations, concealment, omissions were made with knowledge of the falsehood thereof or in conscious disregard of the likelihood of their falsehood or that they should disclose information to allow consumers to make an informed decision.

109. The misrepresentations and/or omissions made by DJI, upon which Plaintiff KINDER and Class Members reasonably and justifiably relied on Defendants were intended to induce and actually induced Plaintiff KINDER and Class Members to purchase the Products.

110. The fraudulent actions of DJI caused damage to Plaintiff KINDER and Class Members, who are entitled to damages, punitive damages, and other legal and equitable relief as a result.

SIXTH CAUSE OF ACTION
Negligent Misrepresentation
(On Behalf of Plaintiff KINDER and All National Class Members against Defendants)

111. Plaintiff KINDER hereby incorporates by reference the allegations contained in all preceding paragraphs of this complaint.

112. DJI misrepresented the flight time and distance/video transmission specifications of the Products as stated on DJI's Website and/or the back of the packaging of DJI's products and/or through other forms of advertising. DJI had a duty to disclose this information.

113. At the time DJI made the false claims and representations, DJI knew or should have known that these representations were false or made them without knowledge of their truth or veracity.

114. DJI negligently misrepresented and omitted material facts about the Products that would impact consumers' decisions. Plaintiff KINDER and Class Members relied upon the negligent statements or omissions and were deceived and induced into purchasing the Product.

115. The negligent misrepresentations and/or omissions made by Defendants, upon which Plaintiff KINDER and Class Members reasonably and justifiably relied, were intended to induce and actually induced Plaintiff KINDER and Class Members to purchase the Products.

116. Plaintiff and Class Members would not have purchased the Products and/or would not have paid a price premium therefore, if the true facts had been known to them regarding the falsity of the Claims.

117. The negligent actions of DJI caused damage to Plaintiff and Class Members, who are entitled to damages and other legal and equitable relief as a result.

SEVENTH CAUSE OF ACTION

Unjust Enrichment

118. Plaintiff KINDER repeats and re-alleges each and every allegation contained in the foregoing paragraphs as if fully set forth herein.

119. DJI have been unjustly enriched in retaining the revenues derived from Plaintiff's and Class Members' purchases of the Products. Retention of those monies under these circumstances is unjust and inequitable because of Defendants' misrepresentations and concealment about the consumer's ability to use the Products per DJI's representations and warranties, which also does not conform to its advertising, which caused injuries to Plaintiff and Class Members because they would not have purchased the Products on the same terms if the true facts had been known.

120. Because DJI's retention of the non-gratuitous benefits conferred on it by Plaintiff and Class Members is unjust and inequitable, Defendants must pay restitution to Plaintiff and Class Members for their unjust enrichment, as ordered by the Court.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff demands judgment on behalf of himself and members of the National Class and California Class as follows:

A. For an order certifying the National Class and California Class; naming Plaintiffs as Class representatives; and naming Plaintiffs' attorneys as Class Counsel representing the Classes;

B. For an order finding in favor of Plaintiffs and the National and California, Classes, on all counts asserted herein;

C. For an order awarding statutory, compensatory, treble, and punitive damages in amounts to be determined by the Court and/or jury;

D. For injunctive relief enjoining the illegal acts detailed herein;

E. For prejudgment interest on all amounts awarded;

F. For an order of restitution and all other forms of equitable monetary relief;

G. For an order awarding Plaintiff his reasonable attorneys' fees and expenses and costs of suit.

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JURY TRIAL DEMANDED

Plaintiff demands a trial by jury on all claims so triable.

Dated: January 28, 2022

Respectfully submitted,
NATHAN & ASSOCIATES, APC

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Attorneys for Plaintiff, JOE KINDER, BRANDON MOSS, and the Proposed Class

EXHIBIT A

MAVIC AIR 2

Up Your Game

Watch Video

Ultra-Clear Details

1/2-Inch Image Sensor
4K/60fps Video
48MP Photo

Enhanced HDR

Photo
Video
Panorama

Cinematic Content

8K Hyperlapse
QuickShots

Fly Longer

34-Min Max Flight Time
240-Min Max RC Battery Life

Fly Smarter and Safer

APAS 3.0 Obstacle Avoidance

Fly Farther, See Clearer

OcuSync 2.0 10km 1080p/30fps Video Transmission

Mavic Air 2 takes power and portability to the next level, offering advanced features in a compact form factor. Intelligent shooting functions and excellent image quality put aerial masterpieces within reach. Safer, smarter flight enables you to up your game while fully enjoying the creative process.

48MP Photo | 4K/60fps Video

10km 1080p Video Transmission

34-Min Max Flight Time

FocusTrack

HDR Photo | Video | Panorama

8K Hyperlapse

Image Quality

Next-Level Content

HDR Video

Dynamic by Default

The secret to incredible HDR video is a high-performance **Quad Bayer image sensor**. A single frame separates exposure levels in different areas, accurately capturing light and dark details. The images are layered to create a colorful, balanced, and eye-catching picture with **higher dynamic range.**

The 48MP camera supports a high megapixel count that allows for vivid details even when you zoom in on an image.

SmartPhoto

Optimized Capture

Mavic Air 2 features SmartPhoto, which integrates scene recognition, HyperLight, and HDR into one mode for optimal results. **Scene recognition optimizes different camera parameters for various scenes and supports intelligent recognition** of five categories: sunset, skies, grass, snow, and trees. [1]

Strong Lighting Conditions | Weak Lighting Conditions

In strong lighting conditions, HDR significantly improves the dynamic range, adjusting exposure parameters and layering shots for more vibrant, high-quality photos.

HDR Panorama

See the Whole Picture

Mavic Air 2 offers DJI's most advanced panorama mode, with a higher dynamic range and colors that are vivid and incredibly accurate.

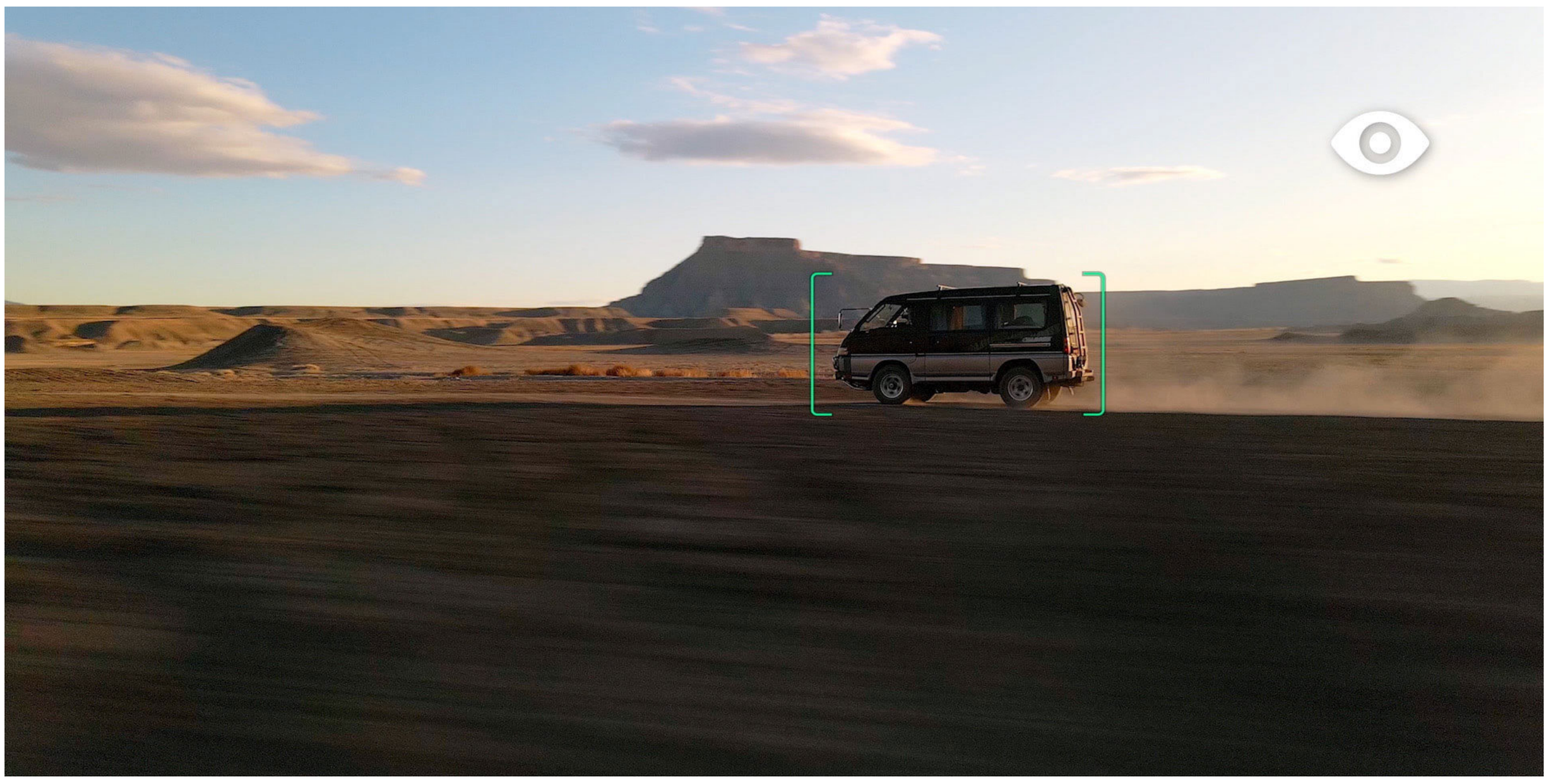
Intelligent Features

Capture Cinematic Shots

FocusTrack

Master the Skies

Professional-quality footage is effortless thanks to FocusTrack. **This easy-to-use suite of intelligent tracking modes includes Active Track 3.0, Spotlight 2.0, and Point of Interest 3.0**, allowing you to unleash your creativity.



Spotlight 2.0 ActiveTrack 3.0 POI 3.0

Fly freely while the camera remains locked on the subject with this convenient mode.
Simply select your subject and fly.

8K Hyperlapse

Time and Movement

Mavic Air 2 supports Hyperlapse in 8K, allowing you **to warp time and space for especially stunning footage**. Best of all, you can achieve this shot without complex post-processing. Choose from Free, Circle, Course Lock, and Waypoint modes, select the shooting location, and the DJI Fly app will do the rest. [2]

Course Lock Free Waypoint Circle

QuickShots

Imagination Simplified

Capture cinematic video clips automatically with QuickShots. **With just a few taps, Mavic Air 2 plans and flies a complicated aerial route for a professional-quality shot**. Add music, effects, and filters with super-intuitive Story templates so you can share your masterpiece directly to social media.

Flight and Safety

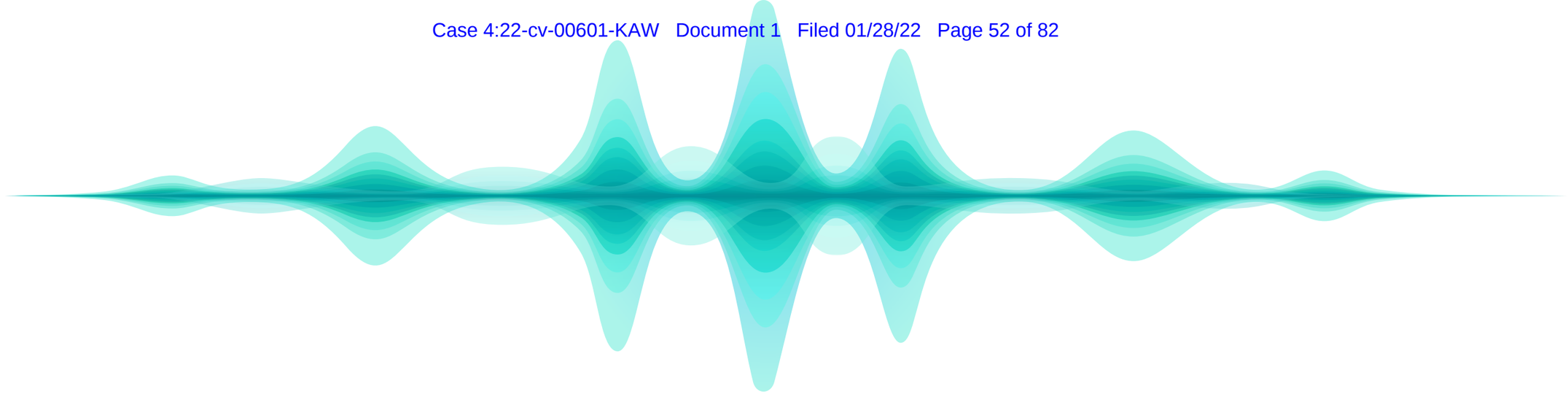
Safer Flight for Stunning Content

OcuSync 2.0 has a video transmission distance of up to 10 km and can also **deliver 1080p FHD resolution livestream** directly from the drone's camera. Enjoy more freedom for exploring and more clarity for that perfect shot. [3]

2.4/5.8GHz Dual Frequency

Reliable Signal, Smooth Flight

Mavic Air 2 supports **2.4/5.8GHz dual-frequency communication** and automatically switches to the best channel with the lowest interference in real time. [4] This significantly improves the aircraft's anti-interference ability in challenging environments, increasing flight safety.



2.4GHz 5.8GHz

Battery and Flight

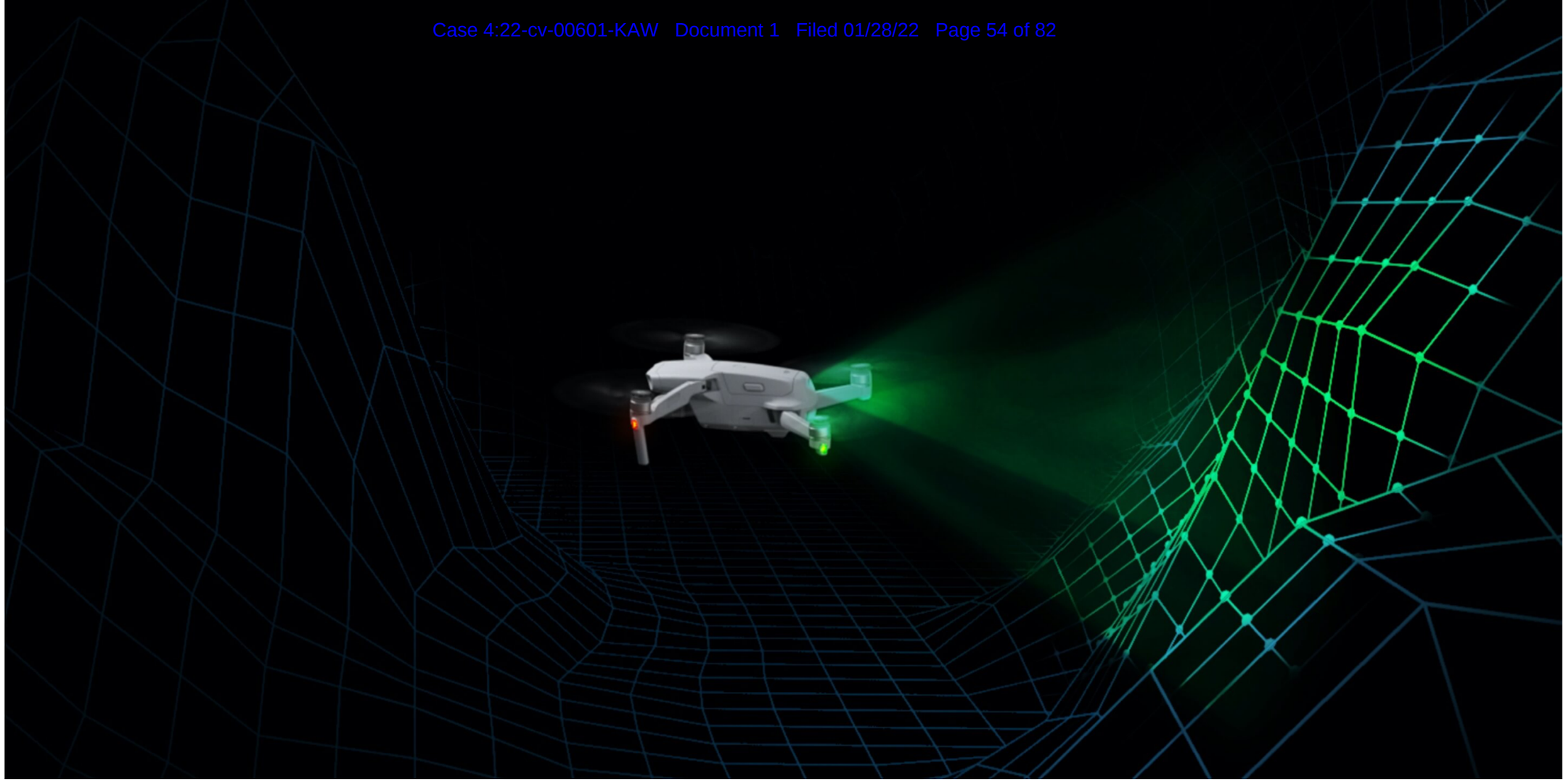
Fly Longer

Stay in the air long enough to get the perfect capture with an impressive battery life of up to 34 minutes and pull off epic, fast-paced shots with **a max flight speed of 68 kph in Sport mode.** [5]

Obstacle Avoidance

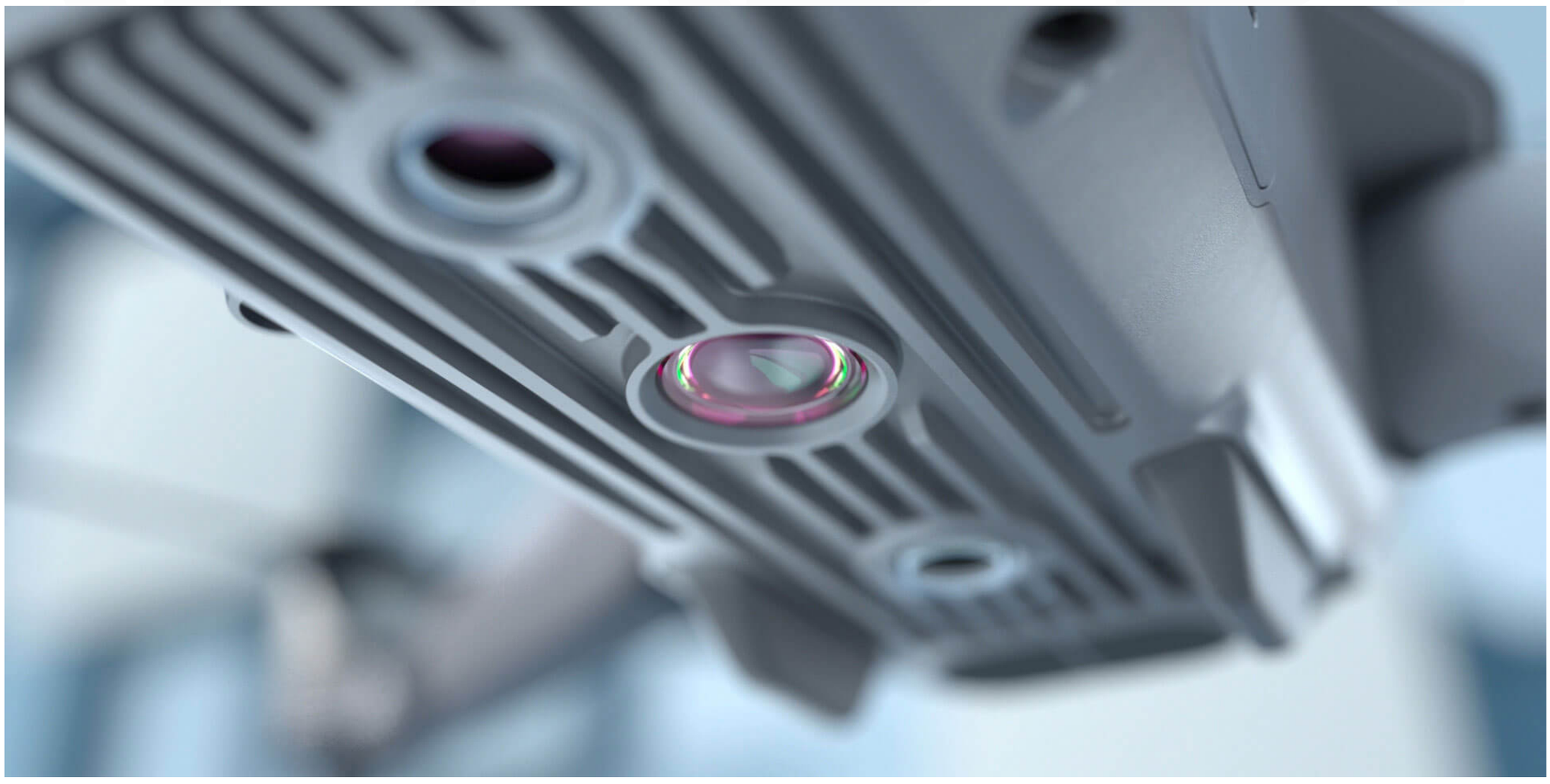
Fly Safer

Mavic Air 2 perceives its environment in three directions: forward, backward, and downward. An auxiliary light improves visibility, and the extra layer of security that obstacle avoidance provides is ideal for pushing the limits of what is possible.



Forward Backward Downward

Vision sensor accurate up to 22 meters

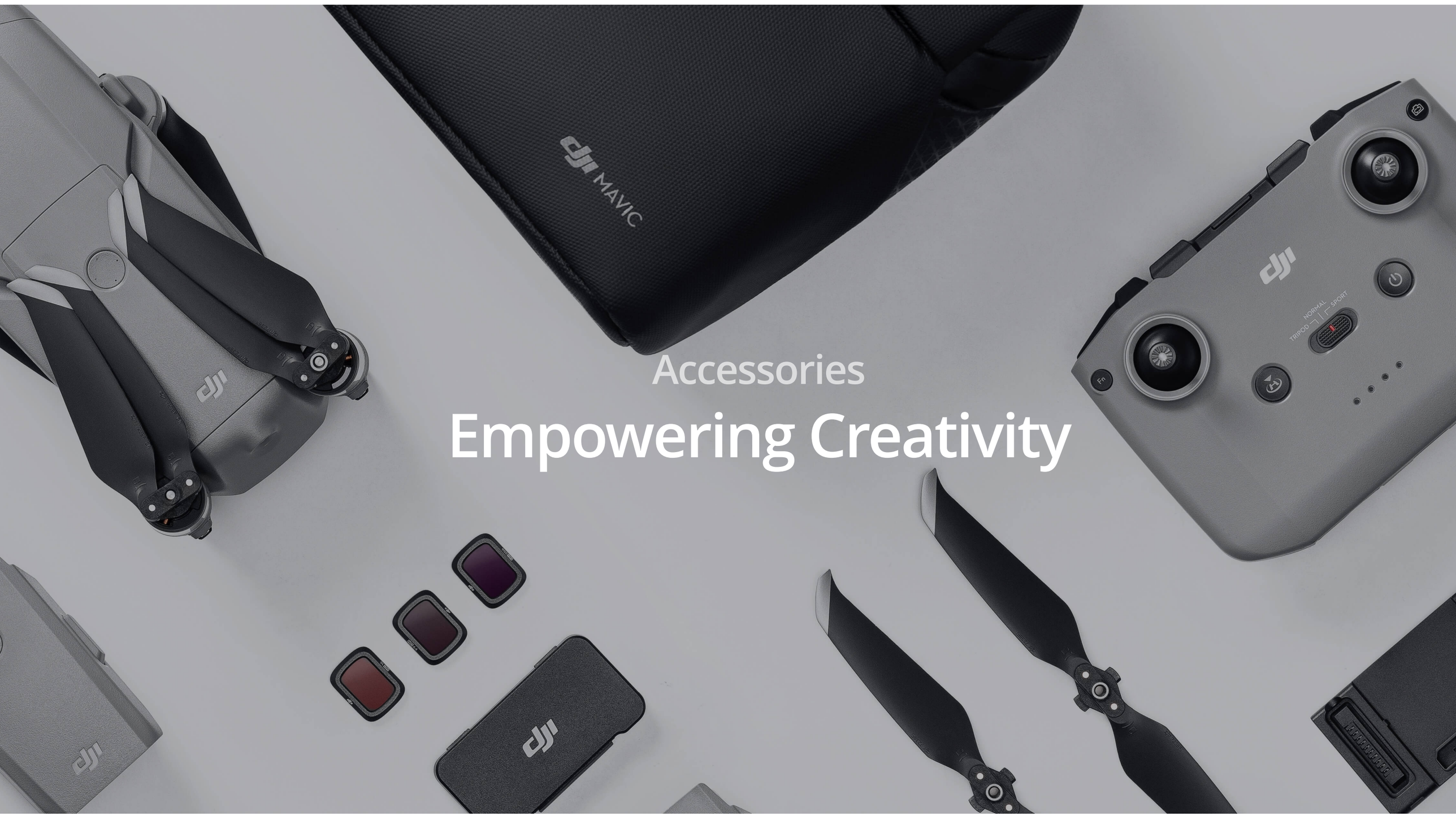


Advanced Pilot Assistance Systems (APAS) 3.0 [6] utilizes an advanced mapping technology for smooth following and reliable obstacle avoidance in complex scenarios. Obstacle avoidance performance and automatic flight planning has dramatically improved compared to previous generations, **increasing safety and providing more options.**

DJI Fly App

Effortless Editing

The DJI Fly app makes creating flawless videos more convenient than ever. It integrates the editing suite from the DJI Mimo app, granting access to **manual settings, advanced functions, and intuitive templates to create professional compositions in seconds**.



Accessories

Empowering Creativity

Remote Controller

Designed for Pilots

The newly designed remote controller features an ergonomic design for a more comfortable grip and boasts an impressively long battery life of 240 minutes. [7] The new clamp makes attaching smartphones fast and easy, while integrated antennas significantly improve user experience.

ND Filters

Optimal Options

Mavic Air 2 offers two ND filter sets that help control exposure and provide more creative options. The ND 16/64/256 set is helpful for adjusting shutter speed and in extreme lighting conditions, while the ND 4/8/32 set enables vivid images even with low ISO values. [8]

Up Your Game

48MP Photo & 4K/60fps Video | 34-Min Max Flight Time | 10km 1080p Video Transmission

HDR | FocusTrack | 8K Hyperlapse

From USD $799

Buy Now

Prices on the official website are for reference only. Visit the DJI Online Store to see the most up-to-date prices.

DJI Care Refresh

Learn More >

Consumer Drones Comparison

Compare Now >

DJI Store Benefits

Learn More >

Online Support

Contact Us >

Note:
1. Photos taken in SmartPhoto mode have a resolution of 12 MP.
2. 8K resolution can only be used in Free and Waypoint modes.
3. Unobstructed, free of interference, and when FCC-compliant. Maximum flight range specification is a proxy for radio link strength and resilience. Always follow local rules and regulations and fly your drone within your visual line of sight unless otherwise permitted.
4. Due to local policies, some countries do not support 5.8 GHz transmission.
5. Flight time acquired at an angle of 9° at a speed of 5.1 m/s, free of wind.
6. APAS 3.0 and FocusTrack are not available while recording in 4K at 60, 50, and 48 fps, 2.7K at 60, 50, and 48 fps, and 1080p at 120 and 240 fps.
7. Battery life was measured with an Android phone in an interference-free environment.
8. ND16/64/256 filters are included in the Fly More Combo. The ND4/8/32 filter set can be purchased separately.

All relevant laws and regulations were observed when shooting the photo and video content displayed on this website.

EXHIBIT B

FAA News

Federal Aviation Administration, Washington, DC 20591

June 21, 2016

SUMMARY OF SMALL UNMANNED AIRCRAFT RULE (PART 107)

Operational Limitations	• Unmanned aircraft must weigh less than 55 lbs. (25 kg). • Visual line-of-sight (VLOS) only; the unmanned aircraft must remain within VLOS of the remote pilot in command and the person manipulating the flight controls of the small UAS. Alternatively, the unmanned aircraft must remain within VLOS of the visual observer. • At all times the small unmanned aircraft must remain close enough to the remote pilot in command and the person manipulating the flight controls of the small UAS for those people to be capable of seeing the aircraft with vision unaided by any device other than corrective lenses. • Small unmanned aircraft may not operate over any persons not directly participating in the operation, not under a covered structure, and not inside a covered stationary vehicle. • Daylight-only operations, or civil twilight (30 minutes before official sunrise to 30 minutes after official sunset, local time) with appropriate anti-collision lighting. • Must yield right of way to other aircraft. • May use visual observer (VO) but not required. • First-person view camera cannot satisfy “see-and-avoid” requirement but can be used as long as requirement is satisfied in other ways. • Maximum groundspeed of 100 mph (87 knots). • Maximum altitude of 400 feet above ground level (AGL) or, if higher than 400 feet AGL, remain within 400 feet of a structure. • Minimum weather visibility of 3 miles from control station. • Operations in Class B, C, D and E airspace are allowed with the required ATC permission. • Operations in Class G airspace are allowed without ATC permission. • No person may act as a remote pilot in command or VO for more than one unmanned aircraft operation at one time. • No operations from a moving aircraft. • No operations from a moving vehicle unless the operation is over a sparsely populated area. • No careless or reckless operations. • No carriage of hazardous materials.

	• Requires preflight inspection by the remote pilot in command. • A person may not operate a small unmanned aircraft if he or she knows or has reason to know of any physical or mental condition that would interfere with the safe operation of a small UAS. • Foreign-registered small unmanned aircraft are allowed to operate under part 107 if they satisfy the requirements of part 375. • External load operations are allowed if the object being carried by the unmanned aircraft is securely attached and does not adversely affect the flight characteristics or controllability of the aircraft. • Transportation of property for compensation or hire allowed provided that- o The aircraft, including its attached systems, payload and cargo weigh less than 55 pounds total; o The flight is conducted within visual line of sight and not from a moving vehicle or aircraft; and o The flight occurs wholly within the bounds of a State and does not involve transport between (1) Hawaii and another place in Hawaii through airspace outside Hawaii; (2) the District of Columbia and another place in the District of Columbia; or (3) a territory or possession of the United States and another place in the same territory or possession. • Most of the restrictions discussed above are waivable if the applicant demonstrates that his or her operation can safely be conducted under the terms of a certificate of waiver.
Remote Pilot in Command Certification and Responsibilities	• Establishes a remote pilot in command position. • A person operating a small UAS must either hold a remote pilot airman certificate with a small UAS rating or be under the direct supervision of a person who does hold a remote pilot certificate (remote pilot in command). • To qualify for a remote pilot certificate, a person must: o Demonstrate aeronautical knowledge by either: ▪ Passing an initial aeronautical knowledge test at an FAA-approved knowledge testing center; or ▪ Hold a part 61 pilot certificate other than student pilot, complete a flight review within the previous 24 months, and complete a small UAS online training course provided by the FAA. o Be vetted by the Transportation Security Administration. o Be at least 16 years old. • Part 61 pilot certificate holders may obtain a temporary remote pilot certificate immediately upon submission of their application for a permanent certificate. Other applicants will obtain a temporary remote pilot certificate upon successful completion of TSA security vetting. The FAA anticipates that it will be able to issue a temporary remote pilot certificate within 10 business days after receiving a completed remote pilot certificate application. • Until international standards are developed, foreign-

	certificated UAS pilots will be required to obtain an FAA-issued remote pilot certificate with a small UAS rating. A remote pilot in command must: • Make available to the FAA, upon request, the small UAS for inspection or testing, and any associated documents/records required to be kept under the rule. • Report to the FAA within 10 days of any operation that results in at least serious injury, loss of consciousness, or property damage of at least $500. • Conduct a preflight inspection, to include specific aircraft and control station systems checks, to ensure the small UAS is in a condition for safe operation. • Ensure that the small unmanned aircraft complies with the existing registration requirements specified in § 91.203(a)(2). A remote pilot in command may deviate from the requirements of this rule in response to an in-flight emergency.
Aircraft Requirements	• FAA airworthiness certification is not required. However, the remote pilot in command must conduct a preflight check of the small UAS to ensure that it is in a condition for safe operation.
Model Aircraft	• Part 107 does not apply to model aircraft that satisfy all of the criteria specified in section 336 of Public Law 112-95. • The rule codifies the FAA's enforcement authority in part 101 by prohibiting model aircraft operators from endangering the safety of the NAS.

EXHIBIT C

Fact Sheet – Small Unmanned Aircraft Systems (UAS) Regulations (Part 107)

For Immediate Release

October 6, 2020
Contact: pressoffice@faa.gov

The Federal Aviation Administration (FAA) rules for small unmanned aircraft systems (UAS), or "drone," operations cover a broad spectrum of commercial and government uses for drones weighing less than 55 pounds. Highlights of the rule, 14 CFR Part 107, follow.

Operating Requirements
Just as there are rules of the road when driving a car, there are rules of the sky when operating a drone.

- Always avoid manned aircraft.
- Never operate in a careless or reckless manner.
- Keep your drone within sight. If you use First Person View or similar technology, you must have a visual observer always keep your drone within unaided sight (for example, no binoculars).
- You cannot be a pilot or visual observer for more than one drone operation at a time.
- Do not fly a drone over people unless they are directly participating in the operation.
- Do not operate your drone from a moving vehicle or aircraft *unless* you are flying your drone over a sparsely populated area *and* it does not involve the transportation of property for compensation or hire.

You can fly during daylight (30 minutes before official sunrise to 30 minutes after official sunset, local time) or in twilight if your drone has anti-collision lighting. Minimum weather visibility is three miles from your control station. The maximum allowable altitude is 400 feet above the ground, higher if your drone remains within 400 feet of a structure. Maximum speed is 100 mph (87 knots).

Your drone can carry an external load if it is securely attached and does not adversely affect the flight characteristics or controllability of the aircraft. You also may transport property for compensation or hire within state boundaries provided

the drone (including its attached systems), payload, and cargo, weighs less than 55 pounds total and you obey the other flight rules. (Some exceptions apply to Hawaii and the District of Columbia.)

You can request a waiver of most restrictions if you can show your operation will provide a level of safety at least equivalent to the restriction from which you want the waiver. Some of the most requested waivers are for operations beyond visual line of sight, during nighttime, and over people. See FAA DroneZone below for more information on requesting waivers.

Registration

Anyone flying under Part 107 has to register each drone they intend to operate. Go to faadronezone.faa.gov. It's fast, easy, and costs only $5.

When you register your drone, you will receive a registration number that you must put on the drone. You can engrave the number, put it on a permanent label, or use a permanent marker. Remember to carry your registration with you when operating your drone.

Pilot Certification

To operate the controls of a drone under Part 107, you need a remote pilot certificate with a small UAS rating, or be under the direct supervision of a person who holds such a certificate.

You must be at least 16 years old to qualify for a remote pilot certificate, and you can obtain it in one of two ways.

- You may pass an initial aeronautical knowledge test at an FAA-approved knowledge testing center.
- If you already have a Part 61 pilot certificate, you must have completed a flight review in the previous 24 months and you must take a small UAS online training course provided by the FAA.

If you have a Part 61 certificate, you will immediately receive a temporary remote pilot certificate when you apply for a permanent certificate. Other applicants will obtain a temporary remote pilot certificate upon successful completion of TSA security vetting. We anticipate we will be able to issue temporary certificates within 10 business days after receiving a completed application.

Drone Certification

You are responsible for ensuring a drone is safe before flying, but the FAA does not require small drones to comply with current agency airworthiness standards or

obtain aircraft certification. For example, you will have to perform a preflight inspection that includes checking the communications link between the control station and the drone.

Other Requirements

If you are acting as pilot in command, you have to comply with several other provisions of Part 107:

- You must make your drone available to the FAA for inspection or testing on request, and you must provide any associated records required to be kept under the rule.
- You must report any operation that results in serious injury, loss of consciousness, or property damage of at least $500 to the FAA within 10 days.

Airspace Authorizations

Operations in Class G airspace are allowed without air traffic control (ATC) permission. Operations in Class B, C, D and E airspace need ATC authorization.

The Low Altitude Authorization and Notification Capability (LAANC, pronounced “LANCE”) uses desktop and mobile apps designed to support the volume of drone operations with almost real-time airspace authorizations. It is now live at more than 530 FAA ATC facilities covering over 726 airports throughout the country and many authorizations are granted within seconds of being submitted.

Currently, LAANC only applies to FAA ATC facilities and does not yet include contract or Department of Defense ATC facilities. Authorizations for those facilities need to follow the manual process through FAA DroneZone.

FAA DroneZone

DroneZone is a one-stop, online shop for drone registration and for requesting waivers or airspace authorizations (where LAANC is not available). For example, if you want to fly at night, beyond your visual line of sight, over people, or perform other complex actions. Visit the site for more details. The FAA generally responds to waiver requests within 90 days, depending on the complexity of the request.

DroneZone may also be used to file drone accident reports.

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EXHIBIT D

Part 107 Waiver Section Specific Evaluation Information

The factors that are considered while reviewing an application for an operational waiver include, but are not limited to, the aircraft to be flown in the operation, operational location, the unique hazards of the proposed waivered operation, and the risk mitigations proposed by the applicant. The waiver process is designed to rapidly respond to industry change, technological developments, and knowledge gained from previous small unmanned aircraft system (sUAS) operations and operational approvals.

Areas Evaluators Focus on During Evaluation of a Waiver Application

An evaluator focuses their efforts on reviewing the applicant's concept of operations (CONOPS) and the operational hazard and risk analysis submitted by the applicant. A CONOPS should include a detailed description of the proposed sUAS operation, sUAS, operational procedures, operational location, operational limitations, hazards, risks, and risk mitigations. A risk analysis should include the severity of each hazard's effect(s), likelihood of each hazard's effect(s), risk mitigations, and predicted residual safety risk with all mitigations in place. An evaluator reviews the following:

- The CONOPS to understand the proposed sUAS operation, location, limitations, and proposed procedures.
- The applicants risk analysis document and each hazard's effects before mitigations are applied as provided in the waiver application, and the severity and likelihood of each hazards effects after mitigations are applied. FAA orders 8040.4 and 8040.6 provide examples and instructions on performing a risk assessment and definitions which may be used for severity and likelihood.
- The rationale and supporting data provided by the applicant to substantiate how each mitigation reduces the severity or likelihood of each hazards effects or risk to an acceptable level.
- The applicant's predicted operational risk after mitigations are applied to the sUAS operation

Manuals Submitted in a Waiver Application

Part 107 operations are performed by entities or individuals who may not hold an air operator or air carrier certificate. The FAA does not accept or approve manuals in a part 107 waiver application. However, manuals and procedures provided by a waiver applicant in a waiver application indicate a strong commitment to safety and consistency in their proposed operation. Manuals and procedures are viewed positively by the evaluator during the evaluation process. Evaluators will consider whether manuals and procedures help limit the severity or likelihood of a hazard's effect(s),

including reviewing the specific rationale provided by the waiver applicant in the risk assessment. Although it is not required, it is strongly recommended the applicant provide the location of each specific hazard or risk mitigation in the manual to make the review process more efficient and productive for both the reviewer and the applicant. An evaluator may use the request for information (RFI) process to request the location of each specific hazard or risk mitigation in the submitted manual(s). A document prepared similarly to a part 135 compliance statement is one example of how an applicant may point to specific hazards or risk mitigations contained in their manual or manual system, and where in the waiver application or manual the mitigation can be located. Evaluators may reference the information provided by a waiver applicant in a manual as supporting documentation for risk mitigations identified in the applicant provided risk assessment. Under a waiver to a section of part 107, the Responsible Person is responsible for the safety of the operation, and all content submitted in a waiver application. As such, the manuals should belong to the person or company requesting the waiver.

Section Specific Evaluation

107.25 Operation from a Moving Vehicle or Aircraft

If waived, this section permits operations from a moving land or water-borne vehicle if the operation is conducted in an other than sparsely populated area or operations from a moving aircraft. “Sparsely populated” is addressed in the pre-amble to part 107. (Waivers will not be issued for operations which propose to comply with the rule and operate from a moving land or waterborne vehicle in a sparsely populated area.) Waivers are prohibited by rule for being issued to this section to perform carriage of property of another for compensation or hire. Many applications for this section ask the FAA to make a legal interpretation on whether or not the flight location is considered sparsely populated. Critical thinking must be applied by the Remote Pilot in Command (RPIC)to determine if the proposed flight will occur in a “sparsely populated” area. References available to the RPIC include the pre-amble to part 107 and Advisory Circular 107-2 which both contain examples and information on “sparsely populated” to assist a RPIC in making their decision. Areas to consider should include but is not limited to the area of operation, aircraft capability, performance, reliability, etc.

An evaluator reviewing a request to section 107.25 will ensure:

- The proposed operation has acceptable procedures in place to mitigate the additional hazards caused by operating a sUAS from a moving vehicle. Some examples of additional hazards created when operating a sUAS from a moving vehicle are:

- Hazards presented by a dynamic and potentially constantly changing operational environment. Most sUAS operations are static in nature in regards

to the RPIC moving during the operation. The additional hazards presented by the RPIC operating the aircraft from a moving vehicle or aircraft may be dependent on the sUAS being operated and the operational location. An example of a dynamic hazard is other moving vehicles and pedestrians which may not be seen in sufficient time to avoid creating a hazard to those persons.

- Loss of line of sight and compliance with 107.31, normally most sUAS RPIC's do not move during operations and position themselves in the best place to observe the aircraft and airspace. During moving vehicle operations, there may be obstructions to viewing the airspace, the aircraft or the surrounding area presented by vehicle itself, or other obstacles encountered while moving. Additional operational distractions caused by the operation of a moving vehicle, examples include communications regarding operation of a car, aircraft, or abnormal or emergency condition of the moving vehicle or aircraft.

- Moving vehicle operations may cover a large geographical area or linear distance, so sUAS communication failure/lost link should be covered. Communications failure/lost link must be carefully considered to ensure the operation remains complaint with the part 107 sections not waived. For example programming to return the sUA to the original departure point as the result of a loss of communications may be over persons, in non-compliance with 107.31, and create a hazard to other aircraft.

107.29 Daylight Operation

Rulemaking has recently been published to allow operations at night without a waiver. Per the rule operators are still allowed to apply for a waiver to 107.29, but are recommended to comply with the rule to accomplish routine operations at night.

107.31 Visual Line of Sight Aircraft Operation

If waived, this would allow the Remote Pilot in Command (RPIC) to operate the sUAS without meeting a portion or all the requirements listed in 107.31. These operations are commonly referred to as beyond visual line of sight (BVLOS). A BVLOS operation can take several forms and generally refers to an operation that does not comply with 107.31 as written. This does not necessarily mean a direct participant in the operation is not or cannot maintain line of sight with the sUAS as described in 107.31. Waivers have previously been issued to 107.31 for the following types of BVLOS operations:

- Operations where there is physical obstruction to vision such as a wall or vegetation, and the sUAS remains within a distance the operation could comply with 107.31 if it was not obstructed by an object. An example of this type of BVLOS would be operating the sUAS on the other side of a building where the RPIC is not able to see the sUAS to determine the location, altitude, orientation, and attitude of the sUAS using unaided human vision.

- Operations where the visual observer(s)maintain compliance with 107.31 however the RPIC is unable to, for the entire duration of the sUAS operation. This strategy is sometimes referred to as “daisy chain visual observers,” the RPIC “or” a visual observer will maintain compliance with 107.31. An example of this type of BVLOS operation is mapping of a field at low altitude where the RPIC will be unable to make the determinations required because of the distance the sUAS will fly from their viewing position. The RPIC may have a visual observer or visual observers around the field or at the other side of the field and either the RPIC, or a visual observer will maintain compliance with 107.31 for all portions of the flight, but the RPIC or the visual observer would be unable to maintain compliance with 107.31 for the entire sUAS operation. Another example of this type of operation is where a RPIC is located in a different geographical location than the sUAS and unable to see the sUAS from the ground control station during operations. Another part 107 certificated RPIC who acts as a visual observer during the flight maintains compliance with 107.31. In this type of operation, the visual observer will act as the RPIC for pre-flight activities and then relinquishes control to the remotely sited RPIC the duties and responsibilities listed in 107.19.

- Operations where no person in the operation maintains compliance with 107.31(a)(3-4) and (b), but not 107.31(a)(1-2). This strategy is sometimes referred to as “airspace surveillance.” This type of operation relies on human vision for detecting other aircraft. An example of this type of operation is where the RPIC and one or more visual observers continue to communicate effectively and monitor the airspace surrounding the sUAS operational area. If an aircraft is detected, the sUAS operations ceases until the other aircraft is clear of the operational area.

- Operations relying on technology to detect other aircraft. This technology could include use of radio frequencies, vision sensors, audio sensors, combination of multiple types of sensors, or another type of sensor proposed by the applicant. Operations relying on sensors to detect other aircraft may require the sUAS or detection equipment be FAA certified, including any onboard detection equipment, and an evaluator will forward these types of applications to the Aircraft Certification Office or AFS-400 for review.

An evaluator reviewing a request to 107.31 will review:

- How the RPIC will be able continuously know and determine the altitude, attitude, and movement of the sUAS and ensure the sUAS remains in the intended area of operations without exceeding the performance capabilities of the command and control link.

- How the RPIC will detect and avoid all other aircraft and avoid flying over or into persons on the ground, and ground based structures and obstacles, or how the operation proposes to comply with § 107.39.
- How the RPIC will increase the visual conspicuity of the sUAS to make it more visible to other aircraft.
- How the RPIC is alerted of degraded sUAS functionality.
- How the RPIC and any other direct participants have the relevant knowledge, experience, and skill to operate the sUAS BVLOS.
- How the operation will comply with the requirements listed in 107.51 during BVLOS operations.
- The command and control links used in the sUAS, including the FCC authorizations for any transmitter used in the sUAS.

Signal Spectrum Use for BVLOS Operations

An evaluator will review the signal spectrum utilized in the sUAS and approved Federal Communications Commission (FCC) licenses issued for those devices to ensure the operation has appropriate command and control links necessary to ensure the safety of the proposed operations and other airspace users. BVLOS operations should not rely on systems operating under part 5 or 15 of the FCC rules because authorization under those parts of the FCC rules require the operation of these devices to be on an interference basis. Interference basis means they may not have a primary frequency allocation and are not guaranteed to have access for use on the frequency, and must accept any and all frequency interference or the effects of frequency congestion. The effects of frequency interference and congestion may lead to delayed responses of the sUAS to commands sent from the ground control station or cause the sUAS to lose its communications link. Devices operating under part 5 or 15 of the FCC rules generally do not provide for a sufficient level of safety, for BVLOS sUAS operations, where the control link is critical to the safety of the sUAS operation. Operations where the communications or information transfer throughout the sUAS is critical to the safety of the operation should not rely on these device authorization categories. It may be necessary to contact the Spectrum office in ATO for further guidance on FCC authorizations, frequency allocations, uses, grants of authorization, grants of authorization limits of use, transmit power, antenna's, and to ensure the command and control link frequency is appropriate for the proposed sUAS operation. An example of a safety critical communication is a command sent to a sUAS to change course to avoid another aircraft, or sensor information obtained from the sUAS, sent to a device used by the RPIC to determine if another aircraft may be a potential collision hazard. Since avoiding another aircraft is a safety critical function, a device

which must accept interference and which may operate on a secondary frequency allocation basis does not provide an expectation for service reliability, and should not be used for this function.

Detect and Avoid

Detect and avoid (DAA) performance will be evaluated at the individual sUAS level. This means an evaluator will not focus on sensor performance (detect) only. The safety of a DAA system is measured at the end state, after the avoid maneuver has been completed to ensure a well clear distance has been maintained from other aircraft. DAA systems must have the ability to detect cooperative (ads-b, transponder equipped, or other radio frequency location reporting means) and non-cooperative aircraft (no electronic or radio frequency position reporting). Cooperative and non-cooperative traffic performance are measured independently. For example a system with a 100% detection rate of cooperative aircraft, may detect 0% of non-cooperative aircraft. A blended number based on an assumption of cooperative vs. non-cooperative traffic densities may artificially show a higher DAA system performance level than can be assured or expected in real-world sUAS operations.

At the time of publication of this information, the FAA has not approved or determined any technology to sufficiently detect and avoid other aircraft under terms and conditions of a waiver. The applications approved to use a technology to detect and avoid other aircraft have been test cases or to support information gathering to develop standards and test methods to determine DAA effectiveness. For scalable and repeatable technology based 107.31 waivers, the FAA intends to utilize a risk based approach to authorizing technology based DAA for use under a waiver to part 107.31. A risk based approach means the higher the operational risk, the more validation is required during the review process. In general, the further the operation is from controlled airspace, persons, and others property, the lower the overall operational risk. For low risk location specific testing operations, an applicant statement and data could be sufficient to issue a 107.31 waiver with DAA relying on a technology. For medium risk BVLOS operations, the applicant should provide 3rd party validation of the DAA systems performance and meet an industry established DAA standard. For high risk operations, the applicant may be required to have the sUAS and DAA technology certified by the FAA or another civil aviation authority (CAA) the FAA has a reciprocal certification agreement with. An applicant who is requesting to perform long range BVLOS operations using a technology based DAA solution should be aware their operation may be outside the intent of part 107 and required to comply with part 91 regulations.

Examples of DAA system performance standards a waiver applicant may use to demonstrate their DAA systems performance is adequate for the requested location or airspace risk class;

- ASTM F3442/F3442M-20 Standard Specification for Detect and Avoid System Performance Requirements. ASTM F3442/F3442M-20 provides for minimum performance levels for defined classes of airspace and altitudes. These performance levels are expressed in a term called risk ratio (RR). A RR is the amount of collisions avoided or the number of loss of well clear breaches avoided because of the added safety of the technology used, divided by the total number of encounters. The lower the risk ratio the more effective the sUAS is at detecting and avoiding other aircraft. A perfect RR where all other aircraft are detected and avoided is 0. Avoiding another aircraft encounter because of strategic mitigations or choosing to stay on the ground because another aircraft is in the area, is not part of the RR calculation. Another example of a performance standard is the RTCA DO-365 Minimum Operational Performance Standards (MOPS) for Detect and Avoid (DAA) Systems.

An applicant may request a different standard, or their own performance standard to be used. The waiver application should provide the analysis, validation, and objective data to support DAA system performance for the area of operation and operational environment and conditions the applicant is proposing sUAS operations.

DAA systems used for BVLOS operations should be certified by the FAA. In the absence of an FAA certified DAA system, an applicant may propose an alternate means to demonstrate sUAS DAA system performance. An applicant should provide information detailing how their proposed DAA system performs in a manner specified by an industry published DAA standard. In the absence of both an FAA Certified DAA system and industry standard, the FAA will evaluate the proposed systems performance on an individual basis, and determine if it is adequate for the proposed location and operation. Manufacturers who wish to obtain repeatable and scalable DAA based waivers, should utilize the type certification process for their sUAS. An evaluator will not recommend a waiver be issued to a proposed BVLOS sUAS operation without an active DAA system on a sUAS when another aircraft could be encountered during flight. A sUAS operating BVLOS, must be able to detect and avoid other aircraft or demonstrate no other aircraft will be present through airspace segregation. Examples of airspace that is considered as segregated is operations within an active and charted restricted area or Temporary Flight Restriction (TFR).

Use of ground based radars

Ground based radars used for radio navigation must be issued a grant of authorization by the FCC to operate under part 87 and operated within the conditions and limitations of the grant of authorization. Ground based radars used for radio location must be issued a grant of authorization by the FCC to operate under part 90 and operated within the conditions and limitations of the grant of authorization. An applicant should provide the FCC grant number located on the device they intend to operate in the sUAS operation. If the device does not have a FCC identification

(ID) number on it, or the applicant is unable to provide the FCC grant number in the application, a waiver will not normally be issued.

Use of Visual Observers

An applicant may request to use one or more visual observers (VO or VOs) to monitor the airspace during a BVLOS operation. Use of a VO or VOs could be considered an acceptable method to detect other aircraft. A waiver applicant should demonstrate the VOs are able to have an unobstructed view of the airspace from the surface of ground to above the intended operational altitude, throughout the proposed operational area. The operation must be able to demonstrate the VO(s) ability to detect other aircraft which may represent a collision hazard in sufficient time for the sUAS operation to successfully avoid and remain well clear of the other aircraft. Prior research and previously approved waiver applications have demonstrated a person is generally effective at detecting most other aircraft headed towards a person at a distance of 1.5 statute miles (SM). Aircraft on tangential trajectories are detected at distances between 2-2.5 SM. An evaluator will utilize these reference distances to determine if the proposed sUAS operation could maintain a sufficient view the airspace surrounding the sUAS in flight to detect other aircraft. Previously 2 SM has been used as a blended distance of airspace as a performance based limitation to view around the sUAS in flight. The ability to view the airspace in flight is not the same as detecting another aircraft. Aircraft detection distances may vary significantly based on contrast, lighting conditions, prevailing visibility, apparent movement, aircraft size, and aircraft altitude. An evaluator will ensure the sUAS operation can detect aircraft which represent a potential hazard to the operation. A proposed operations ability to detect another aircraft operating at 1500’ above ground level (AGL), which does not present collision hazard or loss of well clear distance from the sUAS, does not demonstrate a proposed operations ability to sufficiently detect other aircraft. The proposed sUAS operation should also demonstrate the ability to avoid other aircraft at the maximum operational distance from a direct participant. Detecting another aircraft does not necessarily ensure the other aircraft can be avoided or the sUAS flight path can be altered in sufficient time to remain well clear of the other aircraft. For example if the sUAS cannot be rerouted in flight or has limited ability to change direction of flight, it may not be able to successfully avoid another aircraft, even if the operation can detect 100% of other aircraft operating in the intended flight area. An example of one method and what is required of the applicant to determine the maximum operational distance from a VO:

- VO identifies another aircraft at 1.5 SM, applicant must identify the amount of time it takes for the VO to determine the track of the other aircraft and communicate this information to the RPIC. The applicant should provide a time in seconds reasonable for the communication system utilized in the proposed operations. Most available studies on this suggest it takes at least 10-20 seconds for a person to identify the aircraft, determine the direction of flight, and communicate this information to the RPIC.

- Identify the amount of time required for the RPIC to make a determination if an avoidance maneuver is needed to maintain well clear or not present a collision hazard, and to identify the desired avoidance maneuver. The applicant should provide a time in seconds reasonable for the situational awareness information presented to the RPIC.

- Identify the amount of time it would take the RPIC to maneuver, the applicant should provide a time in seconds reasonable for the maneuverability of their sUAS, the maneuver choices available to choose from, and how the entry of the commands into the ground control station is performed.

- Identify the amount of time the sUAS requires to complete the maneuver to remain well clear. The applicant should provide a time in seconds for each maneuver choice available to the RPIC or the time in seconds based on the performance of the sUAS. For example, if the sUAS is operating at 400' AGL, they applicant should present the amount of time it would take the sUAS to descend 400 feet to the ground, or the amount of time it would take the sUAS to travel to a well clear distance from a worst case scenario encounter geometry with another aircraft.

- All the above times should be added together to get a cumulative time in seconds the sUAS operation requires to detect and avoid another aircraft. This time, in seconds should be converted into linear distance using the average aircraft speed at the location, or a suitable source for average or mean aircraft speed for the class of airspace operations are proposed to occur in. For example, the average speed of aircraft below 400 feet in Class G airspace is about 120 knots. If the sUAS maneuver to avoid other aircraft is land, use the time provided by the applicant in seconds from detect to land. For this example we will say the cumulative time to detect and avoid is 30 seconds. Use the following formula and solve for distance:

Speed * Time = Distance,

120 knots * 30 seconds = 1 nautical mile (NM)

Subtract 1NM from the detect distance of 1.5 NM mile to determine the maximum operational distance of the sUAS from the RPIC or a VO. In this example, the maximum sUAS operational distance to be able to detect and avoid other aircraft from a direct participant in the operation is .5 NM.

Masking/Shadowing

The concept referred to as masking and shadowing is not considered an alternate method to avoid other aircraft or remain well clear of other aircraft. Masking/shadowing is considered a strategic operational mitigation to lower the encounter rate with other aircraft. A BVLOS waiver applicant should provide a means for detecting, yielding the right of way, and remaining well clear of all aircraft, airborne vehicles, and launch and reentry vehicles. The sUAS, at all times, including emergency and contingency operations, must remain within the waiver applications specified masking/shadowing distance to provide an aircraft encounter mitigation credit for Masking/Shadowing. Waiver applicants who request or propose a lower DAA performance level because of their strategic mitigation of Masking/Shadowing, must demonstrate the sUAS ability to remain in the specified area. This is generally accomplished through the Type Certification process.

Combining with Waivers to Operate Over Human Beings and Moving Vehicles

BVLOS operations must account for operation over human beings, rulemaking has recently been published to allow operations over people without a waiver. Per the rule operators are still allowed to apply for a waiver to 107.39, but are recommended to comply with the rule to accomplish routine operations over human beings. A restricted or controlled access area could be considered one way to demonstrate compliance with 107.39 during a BVLOS operation by ensuring non-participants would not be present in the operational area.

107.33 Visual Observer

A visual observer (VO) is not a requirement under the regulation for all sUAS operations. As such, waivers are not issued for this section only. This waiver section may be included in a waiver for other sections subject to waiver. Commonly this section is waived in conjunction with 107.31. If the RPIC or a VO will maintain visual line of sight (VLOS) with the sUAS during flight, the word “or” is used in a waiver to denote this. For example “operations may be conducted beyond the visual line of sight of the remote pilot in command **or** the visual observer.” If the neither the RPIC or the VO, or not all the VOs may be able to maintain line of sight (LOS) with the sUAS during flight, the word “and” should be used in a waiver to denote this. For example “operations may be conducted beyond the visual line of sight of the remote pilot in command **and** any visual observer used in the operation.”

107.35 Operation of Multiple Small Unmanned Aircraft

Operation of multiple sUAS applies to any remote pilot in command, control manipulator, or visual observer. For example, if two RPIC’s utilize the same visual observer, and both sUAS are in flight at the same time, the visual observer would be

considered to be involved in operating more than one sUAS at the same time, and the operation must occur under a waiver to section 107.35. Most aircraft operated under part 107, operate on a non-airworthiness basis without a type certificate issued by the FAA. Outside the type certification process, the FAA does not evaluate, approve, or accept the sUAS or software. The mitigations for this type of operations should rely on environmental mitigations to achieve an acceptable level of safety and locations, sUAS, or proposed operations with low intrinsic operation risk.

An evaluator reviewing a request to 107.35 will review

The operating location or performance criteria proposed by the applicant to ensure a failure of a sUAS will not place a person or others property at undue hazard. Examples of previously acceptable methods or performance criteria are, restricted access areas devoid of non-participants or others property, operations with sUAS which will not cause an injury to persons or damage others property, and sufficient distance between the operational location and non-participants or others property

An applicant could use at least a 1-1 ratio between maximum altitude of the operation and distance from edge of operational location. For example if an applicant proposed operating at 400 feet, they should not operate at any time within 400' horizontally of a person. This concept is often referred to as a "buffer zone." An evaluator should be cognizant of other factors which may increase this distance. High potential sUAS speeds or sUAS which have a longer glide distance may require a larger "buffer zone." The "buffer zone" should be sized to ensure a sUAS failure would impact the ground prior to traveling far enough to impact a person or damage others property. High potential speeds of sUAS or fixed wing sUAS with larger glide distances may increase "buffer zone" distances.

107.37(a) Operation Near Aircraft; Right-of-Way Rules

A waiver to this section would allow the sUAS to not yield the right of way or maintain a well clear distance to all aircraft, airborne vehicles, and launch and reentry vehicles. To obtain a waiver to this section, an applicant should demonstrate that not yielding the right of way to all other aircraft, airborne vehicles, launch and reentry vehicles, and operating within a well clear distance would not adversely affect the safety of the national airspace system (NAS) and other aircraft not participating in the sUAS operation.

107.39 Operation Over Human Beings

Rulemaking has recently been published to allow operations over human beings without a waiver. Per the rule operators are still allowed to apply for a waiver to 107.39, but are recommended to comply with the rule to accomplish routine operations over human beings.

107.41 Operations in Certain Airspace

AFS does not adjudicate applications for this section. An FAA Flight Standards Service (AFS) evaluator does not evaluate an application for authorization or waiver for this section. Applicants may request an operational waiver issued by AFS be combined with an airspace authorization or waiver issued by FAA Air Traffic Organization (ATO). The process to combine a waiver issued by AFS with an airspace authorization or airspace waiver issued by ATO is: The applicant must submit two separate requests in DroneZone.

- A request for the section(s) AFS is the office of primary responsibility (OPR)
- A request for airspace authorization or waiver to ATO the OPR

The request for airspace authorization or waiver to ATO should include the reference number of the applied for or issued waiver from AFS. ATO will verify the waiver requested from AFS has been issued prior to issuing an airspace waiver or authorization to be combined with an AFS issued waiver. ATO will write into the airspace authorization or waiver a statement or provision allowing combination with a specific AFS issued waiver number. If a waiver is written with the following statement "This Waiver is valid for Class G airspace only and may not be combined with any other waiver(s), authorizations(s), or exemption(s) from the FAA," ATO will not allow combination with an airspace authorization or waiver. AFS will place this statement in waiver when the waiver application was evaluated for operations within Class G airspace, or there are mitigations or mitigation strategies proposed in the waiver application which may not be appropriate for operations above 400 feet AGL or within controlled airspace. If the waiver request is disapproved by AFS, ATO may issue the airspace authorization or request without allowing combined operations with an AFS issued waiver.

107.51 Operating Limitations for Small Unmanned Aircraft

107.51(a) waiver requests are reviewed and issued by AFS. A waiver to this section would allow the sUAS to operate at a ground speed exceeding 100 miles per hour. An applicant should demonstrate that the additional potential hazard(s) posed by the increased operational speed does not degrade the safety of the NAS or place non-participants at undue risk. Examples of how an applicant could demonstrate sufficient hazard mitigations from the increased operational are:

- Restricted access locations or areas
- Physical barriers meeting a performance standard adequate to prevent the sUAS from impacting a person or others property

107.51(b) A waiver to this section would allow the sUAS to operate above 400 feet AGL while not within 400 feet of a structure.

Applications for 107.51(b) are reviewed by AFS and ATO. AFS is responsible for reviewing the ground risk and air risk mitigations. The increased altitude may affect the ability of the applicant to comply with 107.31, 107.39 and put additional person or property at risk, in the event the sUAS fails for any reason. Applicants must address how the operation maintains compliance with the visual line of sight requirements listed in 107.31. This includes the ability to determine if their sUAS is above or below another aircraft, or they may demonstrate the ability of the sUAS to land prior to the sUAS becoming a collision threat to another aircraft. An evaluator will refer to the human eye's physiological limitations (Snellen equation) and perception error research to determine if VLOS can reasonably be maintained at the distance and altitude requested in the application. An increase in altitude may increase the potential injuries and property damage a failed sUAS may cause. An applicant must demonstrate when the sUAS is operating over 400' agl, no additional hazard is posed to persons and property, and the operation has the ability to comply with 107.39. If the ground and air risk mitigations are sufficient to issue a waiver, AFS will draft a waiver and forward to ATO for review and concurrence. ATO is responsible for reviewing the airspace requested in the 107.51(b) waiver application. If ATO determines operation of the sUAS will not cause undue hazard to other aircraft, ATO will sign the waiver, and return the signed waiver to AFS for issuance to the requestor through DroneZone.

107.51(c) A waiver to this section would allow the sUAS to operate with less than 3 statute miles visibility from the control station. sUAS operated under part 107 do not operate under Visual Flight Rules or Instrument Flight Rules as specified in part 91 and part (add other parts and references to airspace), any waiver issued for this section should contain the phrase "This Waiver is valid for Class G airspace only and may not be combined with any other waiver(s), authorizations(s), or exemption(s) from the FAA," ATO may not allow combination with an airspace authorization or waiver. AFS will place this statement in waiver when the waiver application was evaluated for operations within Class G airspace, or there are mitigations or mitigation strategies proposed in the waiver application which may not be appropriate for operations above 400 feet AGL or within controlled airspace. An evaluator will ensure the proposed sUAS operation has an adequate method to comply with 107.37 when operating with reduced visibility. An evaluator will ensure loss of control of the sUAS for any reason would not pose an additional hazard to the NAS or non-participants and ensure there is an accurate method to measure the visibility from the location of the ground control station. The method should not rely on nearby visibility readings because visibility can change rapidly and is not always consistent in low visibility areas.

107.51(d) A waiver to this section would allow the sUAS to operate closer than 2000 feet horizontal or 500 below a cloud. sUAS operated under part 107 do not operate under visual flight rules (VFR) or instrument flight rules (IFR) rules as specified in part 91 and the RPIC and sUAS may not comply with IFR requirements for operations in controlled airspace, any waiver issued for this section should contain the phrase "This Waiver is valid for Class G airspace only and may not be combined with any

other waiver(s), authorizations(s), or exemption(s) from the FAA," ATO should not allow combination with an airspace authorization or waiver. AFS will place this statement in waiver when the waiver application was evaluated for operations within Class G airspace, or there are mitigations or mitigation strategies proposed in the waiver application which may not be appropriate for operations above 400 feet AGL or within controlled airspace. An evaluator will ensure the proposed sUAS operation has an adequate method to comply with 107.37 when operating with reduced distance from clouds.